COMMODORE

COMPUTING INTERNATIONAL

APRIL 1988

THE COMMODORE MAGAZINE WITH EVERYTHING!

64 C128

C16 PLUS/4

AMIGA

IN AMERICA - LAND OF SILICON DREAMS

NEWSROOM

ICONTROLLER

£1.10
BELGIUM FR1.30
USA $3.25
CANADA $3.50
GERMANY DM7

APOLLO 18 ▶ SFX'S FIREFLY
GREMLIN'S ALTERNATIVE GAMES
C16 CRL'S SUNSTAR

WIN!

STUNNING STARPRIZES!

OVER A DOZEN GOOD REASONS

1 C64 CONNOISSEUR PACK

C64C, C2N, MOUSE AND CHEESE (PAINT/ART SOFTWARE), CLUEDO, MONOPOLY, SCRABBLE, CHESS, RENAISSANCE, TYPING TUTOR, PLUS 2 JOYSTICKS, 5 BOOKS, 10 BLANK DATA CASSETTES AND 10 PIECES OF EXTRA SOFTWARE.

£189.99▲

2 128 COMPENDIUM PACK

COMMODORE 128, C2N, MUSIC MAKER, INTERNATIONAL SOCCER, JACK ATTACK, SPIRIT OF THE STONES, PLUS 2 JOYSTICKS AND ITB 1 AND 2.

£220.00▲

3 PLUS 4 PRESENTATION PACK

PLUS 4, C2N DATASSETTE, 10 CASSETTE GAMES, 3 CARTRIDGE GAMES, SCRIPT PLUS WORDPROCESSOR, BUILT IN SPREADSHEET AND DATABASE, PLUS JOYSTICK.

£79.95▲

4 COMPLETE MUSIC PACK

C64C COMPUTER, C2N DATASSETTE, 5 OCTAVE KEYBOARD, SOUND STUDIO CASSETTE, SOUND EXPANDER CASSETTE, PLUS 3 PLAYALONG ALBUM CASSETTES. A PROFESSIONAL SYNTHESISER IN YOUR OWN HOME.

£225.00▲

5 MUSIC EXPANSION SYSTEM

FOR USE WITH C64, C64C, C128. INCLUDES 5 OCTAVE KEYBOARD, SOUND STUDIO CASSETTE, SOUND EXPANDER CASSETTE, 3 PLAYALONG ALBUMS CASSETTE OR DISC. PLAYALONG ALBUMS AVAILABLE SEPARATELY AT £5.99 EACH

£75.00▲

MUSIC EXPANSION NOW AVAILABLE ON DISK. ALSO AVAILABLE COMMODORE SOUND SAMPLER DISK ONLY

£32.99▲

6 SEIKOSHA PRINTER

COMPATIBLE WITH MOST MAKES OF COMMODORE COMPUTERS. FEATURES VARIETY OF FONTS INCLUDING GRAPHICS AND NEAR LETTER QUALITY, REVERSE PRINTING, ITALICS, TRACTOR FEED AND PAPER SEPARATOR. COMES COMPLETE WITH SERIAL CABLE AND FREE EASY SCRIPT WORD PROCESSOR PACKAGE.

£169.99▲

7 COMMODORE 64C AND C2N DATASETTE

(DATASETTES ARE AVAILABLE SEPARATELY FOR ONLY £27.99)

£149.99▲

8 COMMODORE 1901 COLOUR MONITOR

COMPATIBLE WITH MOST COMMODORE HOME COMPUTERS. HIGH QUALITY RESOLUTION AND SOUND. RGB AND PAL SWITCH. ALLOWS FOR 80 COLUMN MODE.

£275.00▲

WHY YOU SHOULD READ THIS!

9 COMMODORE 1541c DISK DRIVE

THIS NEW STYLE 1541 DISK DRIVE COMES WITH 20 BLANK DISKS, LOCKABLE DISKETTE STORAGE BOX AND 5 PIECES OF DISK BASED SOFTWARE ALL INCLUDED IN THE OFFER. **£189.99▲**

10 EVESHAM EXCELERATOR PLUS DISK DRIVE

COMPATIBLE WITH COMMODORE HOME COMPUTERS COMES WITH 20 BLANK DISKS, LOCKABLE DISKETTE STORAGE BOX PLUS 5 PIECES OF DISK BASED SOFTWARE **£159.99▲**

11 AMIGA PRODUCTS

KUMANA EXTERNAL DISK DRIVE + 10 FREE DISKS **£159.00▲**

AMIGA EXTERNAL DRIVE + 10 FREE DISKS **£195.00▲**

AMIGA 512K RAM EXPANSION **£115.00▲**

MPS 1200 PRINTER **£225.00▲**

MPS 1500C COLOUR PRINTER **£345.00▲**

▲ *TO ALL PRICES ADD £5.00 CARRIAGE NEXT DAY DELIVERY AVAILABLE £10.00 CASH/ CREDIT CARD ONLY.*

NEW OUTSTANDING AMIGA 500 OFFERS

AMIGA 500 WITH £200 OF **FREE** SOFTWARE AND ACCESSORIES FOR ONLY – **£450.00▲**

OFFER INCLUDES: AMIGA 500 COMPUTER, MOUSE, THE VERY FIRST TUTORIAL, DELUXE PAINT, HACKER II, SHANGHAI, MUSIC STUDIO, DISK STORAGE BOX, 10 BLANK DISKS, 2 JOYSTICKS

AMIGA 500 & 1081 COLOUR MONITOR

ONLY **£649.00▲**

OFFER INCLUDES: AMIGA 500, AMIGA 1081 COLOUR MONITOR, MOUSE, THE VERY FIRST TUTORIAL, DELUXE PAINT

Offer applies to U.K. Mainland only. All products guaranteed for 12 months

Privileged Purchase Card

When you participate in this unique offer from Postronix, you will also receive a privileged purchaser card enabling you to add to you collection of Amiga software, accessories and hardware plus many other products available from Postronix, all at incredible discount prices.

PRIVILEGED PURCHASE CARD

postronix ltd

A Prestwich Holdings plc Company

Please send me

VISA

PLEASE DEBIT MY CREDIT CARD

SIGNATURE

DATE

(OVERSEAS CARD HOLDERS PLEASE STATE EXPIRY DATE)

OR ENCLOSE CHEQUE/ POSTAL ORDER FOR £ CHEQUE PAYABLE TO POSTRONIX LTD

SEE NOTE

TOTAL GOODS

POSTAGE & PACKING

GRAND TOTAL

IF YOU DO NOT WISH TO ORDER BUT WOULD LIKE A FREE CATALOGUE, FILL IN THIS COUPON AND SEND TO ADDRESS SHOWN

OR PHONE (0533) 677823 24 HOUR ORDER SERVICE

SEND YOUR ORDER TO

POSTRONIX LTD. 8 FARADAY COURT, PARK FARM, WELLINGBOROUGH, NORTHANTS NN8 3JY

REG NO: 2019251

TITLE (TICK) MR. MRS. MISS

INITIALS

SURNAME

ADDRESS

CUSTOMER NO (IF KNOWN)

POSTCODE

▲ *TO ALL PRICES ADD £5.00 POST & PACKAGE OR £10 FOR NEXT DAY DELIVERY.*

132 pages of definitely the best value Commodore magazine in the Universe!

Inside

COMMODORE COMPUTING INTERNATIONAL

APRIL 1988 VOL 6 NO 9

CCI View 5
News 6, 8, 10, 13
North Star Competition 14
Technical Letters 15, 16
Road Warrior Offer 20
Opinion – Graeme Kidd 21
Icontroller Review 22
Super Disk Libarian Review 24
In America Special Feature 26, 27, 28, 29, 32
Subscription Form 30
Mapping Out The Adventure 37, 38
Book Reviews 40
ICPUG 45
Readers' Letters 46, 47
The Which Computer Show 48
Easy Music 54, 55, 56
Compunet 56
Alternative World Games Review 58
Mini Putt Review 60
Super Star Ice Hockey Review 61
Colossus Mah Jong Review 53
Room Ten Review 64
Cover Offer 64
Dark Castle Review 66
Competition Winners 70
Apollo 18 Review 72
4th & Inches Review 74, 75
Horgan's Hints 77
Super Felix 78
Charts 79
Opinion – Jeff Minter 80
Xenon Review 82, 83
Sun Star Review 84
BMX Simulator 85
Budget Games 86
Sun Star Competition 88
Gauntlet II Review 89
Traz Review 90
Fire Fly Review 91
Adventure 93, 94, 95, 96
Sub Battle Simulator Review 98, 99
News Room Review 101
News Room Offer 104
Add on Guide – Part II 108, 109, 100, 112
Drive Alignment Review 117
Programs
Character Viewer 119, 120, 125, 126
Variable Dump 127
Classified 128
Advertisers' Directory 130

POWER UP WITH CCI'S ADD ON GUIDE – PAGE 108

CCI View

Dear Reader,
This month, as is quite usual, software manufacturers are coming in for severe flak. Jeff Minter lays into them for keeping Amiga software prices too high. Graeme Kidd takes them to task for a whole series of sins. The first part of the U.S. feature in this CCI points out that European software houses don't spend anywhere near the same amount of time, trouble and money on producing games as American companies and so don't come up with the same top level of quality products. And we are still receiving sad complaints about the fading C16-Plus/4 machines where desperate owners, the diminishing number who have not given up, think they are stuck with computers that have never had a fair share of good software and soon won't have any new software at all.

Nobody will believe, however, that this is a new situation. Since the mass software market began at the start of the 1980's, the U.K., for example, has been different from almost anywhere else, most noticeably because of its largely cassette based computer ownershp. Prices of Commodore software have always been higher than for the same games produced for the Spectrum, Disks, as Graeme Kidd points out, do not really cost much more than cassettes to buy wholesale yet are generally priced in the shops at £3 or £4 more.

The "Silicon Valley Dreams" feature in this CCI reinforces the view that the sheer volume of quality that comes out of the U.S. software companies far outdistances their rivals on this side of the Atlantic.

Managing Editor and Publisher ..... Antony Jacobson

Features Editor . Anthony Mael

Production Manager ..... Keith Miles

Production Controller ..... Sandra Gallagher

Marketing Manager ..... Max Jacobson

Senior Advertisement Manager ..... James Mack

Advertisement Manager ..... Billy Brown

Advertisement Executive ..... Michelle Singlehurst

Finance Director ..... B. J. Lewis M.Sc. F.C.A.

Consultant Art Editor ..... Graham Baldock

Artwork ..... Rico Gusman

Staff Writer .... Tony Horgan

Research by ... André Jacobson González

Contributors ..... Ian Bennett ..... Margaret Bennett ..... Jack Cohen ..... Bob Collyer ..... Andy Eskelson ..... Mario Abela ..... Chris Moody ..... Peter Gerrard ..... Graeme Kidd ..... Courtney King ..... Janet Menzies ..... Jeff Minter ..... Daphne Moss ..... Andy Moss ..... Zack Mule Skinner ..... John Ransley ..... Bud Vennos

Competition Controller .....Tessa Genève

Telephone 01-278 0333
Editorial ext: 274
Advertising ext: 280/266
Subscriptions ext: 274

Published by Croftward Limited
Finsbury Business Centre
40 Bowling Green Lane
London EC1R 0NE

Distributed by: Comag, Tavistock Road, West Drayton, Middx UB7 7QE

Printed by: Chase Printers Group

Typesetting: Carlton Barclay

© Croftward Limited 1988

Why do all these probably unnecessary and disagreeable things happen in the software market? Well, price is one important factor. If you can charge more for a product like disks, and sell them *in large amounts*, as in the U.S., then you can afford to reinvest the cash in creating new high class products. But, if you have a mainly cassette-based, lower price market, that may not apply.

Higher prices may also mean that you have to appeal to a group with more money to spend and that could be a higher age group, with not so childish level of satisfaction. In the U.S. for example, the average age of the computer user seems to be somewhat higher than in the U.K. and Europe.

In many countries, too, the home computer is not regarded as merely a games machine but in the U.K. at least these days, it is very difficult to buy any software in the computer shops — and especially the multiple chain stores, except the latest top ten games. That is why you see so many mail order advertisements in the pages of CCI offering better value and a bigger variety of Commodore products than you can buy on the high street.

As for the poor C16-Plus/4 owners, the amount of software being sold for their computers is today about a tenth of what was bought this time last year. That is a reflection both of the number of owners of those machines who are buying software and the view that the software companies take of whether that number will increase or fall. Of course, these things may feed of off each other — too little software, less use of the computers fewer owners continuing to use their machines, a smaller market for software. But anyway, the computer world moves fast and computers that do not quickly achieve a really large mass market soon disappear. Remember the Oric, the Enterprise, the Dragon (and we may soon add the BBC to that list)? There was nothing really wrong with those computers — they still have their fans today! There were just not enough of them for software companies to go producing for them.

The CBM market is itself a reflection of the rest of the commercial world. It may not work the way it "ought". It moves in the direction in which individuals — computer buyers and users, and companies — hardware and software manufacturers — see their own best interest served. Don't blame the software people. They are not very different from the rest of our society. They are not a public service but out to make money for themselves. If they are sometimes greedy or selfish, they act not so differently from the way that the rest of our society is constantly encouraged to behave. We must not complain about the way others play the game if they are following the rules. We must change the rules or the game itself.

Antony H. Jacobson,
Managing Editor and Publisher

Bugbyte's Star Soldier

Far away at the other side of the world, Bugbyte tells us, there is a Commodore programmer slaving away to produce superb games for other games players worldwide. Star Soldier is an action game with over 100 missions to choose from and progress through. There are four different weapons to choose from — explosives, grenades, warp units and smart bombs. Each successful mission earns money so that you can increase your armoury and hence your chances of success. This game features strategy not often found in a shoot-em-up.

Price (64) £2.99.

Gremlin take the Mickey!

Gremlin have another exclusive, licensed Walt Disney character — the biggest of them all — Mickey Mouse.

The game is set in Disney Castle where four evil witches, under the power of the Ogre King, have stolen Merlin's wand to do evil deeds. The wand has been used to cast a spell over the land so that the Ogre King can reign supreme. For the spell to remain cast, the wand has been broken into four pieces and given to the witches to guard in the four towers of the castle.

The witches have stolen all but the last flagon of enchanted water and use it to create evil guidians to help keep the towers secure. Mickey (the hero!) has been given the last of the enchanted water by Merlin to use wisely on his quest to recover the wand and defeat the Ogre King.

From Russia with Mirrorsoft

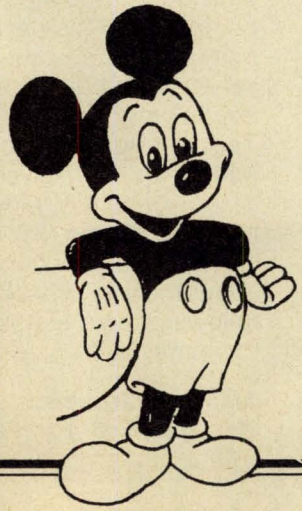
One of the most unusual games of the moment is Mirrorsoft's Tetris. It is unusual to play but even more in its origin.

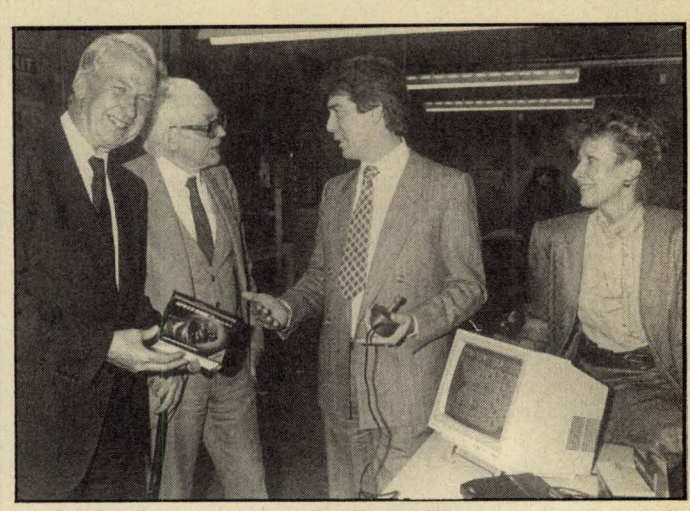
Victor Brjabrin, Head of the Computer Centre of the USSR Academy of Scientists, is the man responsible for bringing TETRIS out of the Academy and into the world at large. The game itself was invented by one of his researchers, 30-year-old Alexi Paszitnov, and the programming was done on an IBM personal computer by an 18-year-old student of Computer Informatics at Moscow University, Vagim Gerasimov.

Robert Stein, Managing Director of Andromeda Software Ltd in London, came across the game being played in the Computer Research Laboratory (SZKI) in Budapest during a recent visit to Hungary. He was impressed both with the quality of the game itself and with its sheer addictiveness, and on his return to London, showed it to Mirrorsoft Ltd. Mirrorsoft jumped at the chance to publish such an innovative game.

Mirrorsoft's Managing Director, Peter Bilotta, is enthusiastic about the prospects for TETRIS in the West: "We are very lucky to be publishing Tetris. No only is it the first Russian computer game to become available in the West . . . we believe it is a certain No. 1."

Tetris is for the 64/128 and Amiga.





Peter Walker, Michael Foot, Wyn and Sandra Holloway.

Fast moving Konix

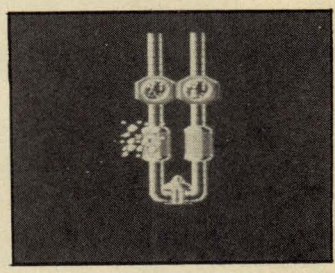
Konix, the Welsh based company formed 2 years ago by Wyn Holloway, a former bankrupt carpenter, and his wife Sandra, have recently moved to a new larger factory. The move follows the enormous success of the last 12 months in which the company more than doubled its turnover to over £½ million a month.

The opening ceremony at the new factory was performed on the 15th January 1988 by the Rt. Hon. Peter Walker, Secretary of State for Wales. Also in attendance was the M.P. for Blanau Gwent the Rt. Hon. Michael Foot, together with civic leaders and dignitaries, including the Mayor of Blanau Gwent.

Konix, who export over 90% of their production, sell their famous Speed King Joystick throughout the world including the U.S.A. where they have already sold over 1 million units. They have also recently signed a sales and marketing agreement with Kraft, one of the largest computer peripheral companies in the U.S., for the distribution of Kraft's products in Europe. Konix also manufacture products for the Japanese.

One of the most immediate effects of the move will be extra space and the opportunity for Konix to double their workforce, enabling them to employ over 100 people, which is good news for the people of South Wales.

Task III — only the fittest will survive!



Databyte — the software house that bought you Superstar Ice Hockey and the Spy vs Spy series — are launching their latest action packed arcade game.

With smooth 3-D graphics and interesting music and sound effects, TASK III is claimed to be the ultimate test of reflexes. The freedom of the galaxy depends on your skills as you carve your way through a treacherous terrain, filled (for a change!) with deadly traps and numerous pitfalls — not to mention the lazar beams and the surges of alien ships!

TASK III is Databyte's first game to be programmed in Europe — previous titles were released under licence from the USA.

There is one- or two-player options, and 16 leels of play. For Commodore 64 at £9.95 on cassette and £14.95 on disk.

continued on next page

CLUB 68000

DO YOU OWN AN AMIGA OR ATARI ST COMPUTER?

For everyone who owns one of these computers the CLUB 6800 offers members software, hardware & accessories at a saving up to 50% OFF RECOMMENDED RETAIL PRICES. Each item has been carefully chosen to offer the best value & quality

HERE'S WHAT YOU GET

When you join you will receive a FREE DISK with 10 GAMES (monochrome or colour).
A FREE CATALOGUE: with the TOP COMMERCIAL products with HUGE DISCOUNTS (TOP 20 GAMES, TOP 10 BUSINESS PROGRAMS, HARDWARE & ACCESSORIES).

- NEW CATALOGUE every 3 months.
- NEWSLETTER every month with SPECIAL OFFERS on all the latest products.
- Special PUBLIC DOMAIN SERVICE: Best quality collection of PD software for the AMIGA/ATARI ST in the world.

HERE'S WHAT YOU DO

Just fill in the coupon below and return it to CLUB 68000. Your only commitment is to pay £10.00 for 1 years membership. You will then receive the CLUB 6800 GAMES COMPENDIUM (10 GAMES), your first copy of the FREE 68000 CATALOGUE, plus any items you have chosen at the special introductory prices.
JUST BY PURCHASING ONE PRODUCT FROM THE INTRODUCTORY OFFER, IT WILL MEAN YOUR MEMBERSHIP WILL COST YOU NOTHING.

SPECIAL INTRODUCTORY OFFER

There couldn't be a better time to join, from all the products listed below. 50% DISCOUNT on GAMES & 30% DISCOUNT on BUSINESS PROGRAMS, CHOOSE AS MANY ITEMS AS YOU WANT, IT'S UP TO YOU.

AMIGA HARDWARE	RRP	MEMBER'S PRICE
3.5" Disc Drive	£139.95	£89.95
5.25" Disc Drive	£169.95	£129.95
A500 2 MEG RAM Expansion	£499.00	£399.00
A1000 2 MEG RAM Expansion	£499.00	£369.00
A500/1000/2000 Sound Digitizer	£89.95	£69.95
A500 512K RAM Expansion Plus Clock	£119.95	£84.95
AMIGA GAMES		
1. Hunt for Red October	£24.95	£12.45
2. Insanity Flight	£24.95	£12.45
3. Hollywood Poker	£19.95	£9.95
4. Time Bandit	£24.95	£12.45
5. Barbarian	£24.95	£12.45
6. Jinxter	£24.95	£12.45
7. Defender of the Crown	£24.95	£14.95
8. World Games	£24.95	£12.45
9. Winter Games	£24.95	£12.45
10. Gold Runner	£24.95	£12.45
AMIGA BUSINESS PROGRAMS		
1. 64 Emulator	£69.95	£48.95
2. Drum Studio	£49.95	£34.95
3. Superbase	£99.95	£69.95
4. Gizmoz	£49.95	£34.95
5. Omega File	£49.95	£34.95

ATARI ST HARDWARE	RRP	MEMBER'S PRICE
3.5" Disc Drive	£129.95	£89.95
5.25" Disc Drive	£169.95	£129.95
512K RAM Expansion	£79.95	£59.00
DISCS		
3.5" DSDD	£14.95	£9.95
5.25" DSDD	£9.95	£4.95
ATARI ST GAMES		
1. Startrek	£19.95	£9.95
2. Star Wars	£19.95	£9.95
3. Dizzy Wizard	£19.95	£9.95
4. Barbarian	£24.95	£12.45
5. Winter Olympiad	£19.95	£9.95
6. Psion Chess (3D)	£19.95	£9.95
7. Hunt for Red October	£24.95	£12.45
8. Skyrider	£19.95	£9.95
9. Bubble Bobble	£19.95	£9.95
10. Jinxter	£24.95	£12.45
ATARI ST BUSINESS PROGRAMS		
1. PC Ditto	£89.95	£62.95
2. Superbase	£99.95	£69.95
3. Fleet Street Publisher	£115.00	£85.00
4. 1st Word Plus	£79.95	£55.95
5. Art Director	£49.95	£34.95

INTRODUCTORY OFFER:

Mail to: **CLUB 68000 LTD** 52, Linkfield Road Isleworth Middlesex TW7 6QH

Please send me: _____

_____

_____

Free Post & Packaging within the UK. Europe £1.00

☐ Cheque enclosed ☐ Visa ☐ Access/Mastercard

Credit Card Number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry Date _____ Signature _____

Name _____ Address _____

_____

Telephone Number _____ Post Code _____

FREE GAMES COMPENDIUM: ATARI ST ☐ MONO ☐ COLOUR ☐ AMIGA ☐

...news...news...news...news

New Alternatives

Alternatives, one of the UK's fastest growing software houses, has obtained the rights to products from Piranha, Audiogenic, Incentive and Bubble Bus.

The Piranha games include Trap Door, Popeye, Rogue Trooper, Strike Force Cobra and Nosferatu. Alternative believe that at £1.99 they are truly astonishing value for money.

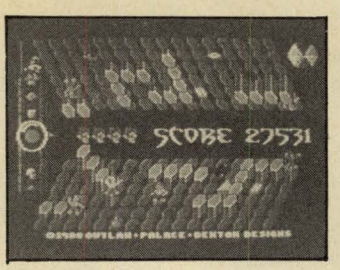
Alternative are also realeasing for the first time at budget price Mooncresta from Incentive and Audiogenic's Psycastria.

Alternative Software, who are currently the fourth most popular software house in terms of market share, according to Gallup, were formed less than a year ago and have so far had over 30 top 20 hits.

Roger Hulley, Managing Director of Alternative, commented, "I don't think the public could ask for better value. I can see no reason why products such as Trap Door or Popeye at £1.99 should not dominate the charts for months to come".

CRL's Road Warrior hits the streets

In CRL's latest game, Road Warrior, your task is to clear the streets whilst driving a choice of cars — from a prestigious Ferrari to a nippy Volkswagen. Groovy music accompanies your crusade and various weapons and speeds are at your disposal. Whilst your target is to progress through all levels, you must obviously keep an eye on such things as fuel consumption and judge the right time to visit fuel stations without losing too much valuable time. Definitely a colourful, exciting and dangerous game even for those of you who have no hope of ever passing a driving test! Road Warrior will be available on the Commodore 64, cassette £9.95, disk £14.95.



Outlaw's Troll

Following the success of their debut release Shoot 'em up Construction Kit (so far only available for the Commodore 64) Outlaw Productions have announced the release of their next game — TROLL.

Designed and programmed by the 'innovative and ingenious' Denton Designs, TROLL is a slice of pure arcade mayhem. Trapped in the netherworld of Narc you're on your own against hordes of fiendish goblins whose only pleasure in life is to send you crashing through one of their holes into another dimension.

Fight off the goblins and use your own supply of escape-holes to jump through the floor to new locations in the search for the means of your escape.

Keep an eye on the great wheel of fortune and watch out for the goblins above you and just longing to drop a death-hole over an unwary Troll. Of course you could always somersault onto the ceiling and carry on the battle upside-down. Just make sure you don't end up in THE PIT.

TROLL is a fast moving all-action game set in a wierd world of mirrored images. It will be available in the early spring for the Commodore 64.

Is Program Trading Bull?

The New York Stock Exchange has imposed restrictions on 'program trading' as a result of last October's Stock Market crash. Program Trading is not the selling of computer programs but the orders for the sale of purchase of company shares that are automatically given by computers without human intervention. Many stockbrokers and other active in the buying and selling of shares today use computerised buying or selling programs that are self-activated when shares rise or fall to certain pre-set levels. When share prices break these levels, thousands of programs all probably set to the same significant price points, immediately issue trading orders.

On "Black Monday" — October 16th 1987, shares lost up to 20% of their value when the stock markets of the world suffered a sudden "meltdown". Many people have attributed a major part of the blame for the stock market crash to these computerised sale programs which were triggered again and again as the prices of shares fell lower and lower, each fall setting off more selling orders.

A U.S. Presidental Task Force set up to investigate what happened that day has come to the conclusion that "program selling based on computer modelling techniques was a major factor in the problem". It went on to say that the situation could anyway have been worse. It seems that people running the programs stepped in and reduced the amount of selling demanded by the computer programs. "Huge as the selling pressure... was, it was a small fraction of the sales dictated by the formulae of their models."

It is, of course, easy, as always, to blame the computers but who write the programs in the first place? Didn't they realise that if everyone sells when share prices fall then share prices will go on falling — and then everyone will sell again and so on and so on? It is still it seems, GIGO — Garbage In, Garbage Out, even for the computer geniuses on the Stock Exchange.

Spaghetti at McDonalds?

MacDonalds, the fast food chain, are to become one of the first major companies to get into the new Integrated Services Digital Network (ISDN) technology in a big way. ISDN allows integrated voice and data services and reduce the excess wiring this would usually require.

MacDonalds, which at present has a 100 line ISDN at its U.S. headquarters in Oak Brook, Illinois, is to increase this to 400 and even create an all ISDN building later

The employees at McDonalds headquarters will have the choice of over 300 voice or data facilities which will, for example, allow people in different offices to view, all at the same time, information appearing on a caller's screen. Everyone viewing the information will be able to edit or comment on the text while still speaking on the telephone to the caller.

Other facilities include access to the host computer from a number of terminals, automatic display of the caller's telephone number, voicemail — spoken messages shown as text or vice-versa, and an electric telephone directory.

The suppliers of McDonald's ISDN — Ameritech — said they were using McDonalds as a test and when the test is completed. "We believe this will rid us of network spaghetti..."

Spaghetti? They had better not use that word over Big Mac's new network!

Obscene 'Letters'

Network Security, a company specialising in computer security problems was recently called in by a major computer manufacturer. Whose VDU operators were being 'upset' by mysterious obscene pictures that appeared on their screens. The pictures were not graphically but textually created by using letters — but the pictures were so well drawn, and obscene, that some operators were greatly disturbed by them. They arrived on screen via the computer manufacturer's internal electronic mail facility.

Network Security traced the terminal on which the pictures had been created but not the guilty party. A number of people had access to the terminal and could transmit messages — even obscene ones — without needing to identify themselves.

continued on next page

DIMENSION computers l.t.d.

27/29 High Street
Leicester LE1 4FP
Tel: (0533)
517479/21874

THE MIDLAND'S LARGEST COMPUTER STORE

CBM 64/128 and PLUS 4 COMPANIES PACK
Sales/Purchase/Nominal Ledgers with Invoicing and Stock Control, Disc **£24.95**

PRECISION
Superscript 64 ..... **£24.95**
Superbase 64/+4 ..... **£24.95**
Superscript 64 & Superbase 64 ..... **£44.95**
Superscript 128 ..... **£29.95**
Superbase 128 ..... **£29.95**
Superscript 128 & Superbase 128 ..... **£54.95**
Superbase, The Book **£11.95**

GEOS Version 1.3
CBM 64/128 Operating System Including: Desktop, Geowrite, Geopaint, and Desk Accessories, Disc
CBM64 ..... **£26.95**
CBM128 ..... **£34.95**

GEODEX/DESKPACK
Combined Database with powerful Mailmerge function. Also contains Artgrabber Graphic Images, Calendar and Icon Editor **£21.95**

GEOCALC
Geos-based Spreadsheet **£24.95**

GEOPUBLISH
Powerful Geos-based Desktop Publishing System allowing combined Text, Graphic Images and Line Graphics **£34.95**

I CONTROLLER*
Geos-compatible Joystick. Fits onto keyboard **£12.95**
*FREE OF CHARGE WITH PURCHASES OF TWO OR MORE GEOS PACKAGES

WRITERS WORKSHOP
Professional full-feature Wordprocessor. Integrates with Geopaint, etc **£21.95**

THE NEW STAR LC10 Dot Matrix Printer
★ 120 cps Draft 30 cps NLQ ★ Friction and Tractor Feed
★ 5K Buffer ★ Paper Parking Facility
★ 6 Resident Fonts and 7 Different Print Pitches
Selectable from Front Mode Select Panel
Commodore Serial or Centronics **£199.95**
Including FREE GEOS worth £26.95

1541C DISC DRIVE **£169.95**

OCEANIC OC 118N **£139.95**
Commodore Compatible Disc Drive
Including GEOS, plus either:
Software Pack A
6 Disc Adventure Games plus 5 Disc Arcade Games
Software Pack B
Easyfile Database, and Future Finance Planning Package

CBM 64 Ram Expansion 256K **£99.95**
CBM 128 Ram Expansion 128K **£99.95**
CBM 128 Ram Expansion 512K **£149.95**

SUPER G
CBM to Centronics Printer Interface **£34.95**
FINAL CARTRIDGE 3 ..... **£39.95**

COMMODORE 560P
2-colour Dot Matrix Printer, takes 2¾in. roll paper ..... ~~£49.95~~ **£29.95**

MPS803 TRACTOR FEED UNIT **£29.95**

CBM 64/128 MUSIC EXPANSION SYSTEM
Including Keyboard, Synthesiser and Software **£75.00**

COMPOSER/EDITOR SOFTWARE
For Music Expansion System, Tape or Disc **£24.95**

ACTION REPLAY Mk IV
Tape to Disc Back-up Cartridge **£29.95**

NEOS MOUSE
WITH CHEESE SOFTWARE, Tape or Disc **£24.95**

COMMODORE C2N DATA RECORDER **£29.95**

PRINTER RIBBON OFFER
MPS 801, 802 Ribbons **£5.95**
MPS 803 & MPS 1000 ..... **£4.95**
DPS 1101 Multi Strike **£3.50**
BUY FOUR AND GET ONE FREE!

AMIGA RANGE

AMIGA A500/CBM MONITOR OFFER
AMIGA A500 with **COMMODORE 1084 HIGH RES COLOUR MONITOR**, Mouse, Workbench, Basic and DPAINT Software **£679.00**

AMIGA A500 PACK 1
with Mouse, Workbench, Basic, DPAINT, TV Modulator, 40 Disc Storage Box, Dust Cover, 10 Games/Utility Discs, plus Demolition, Space Battle and Cruncher Factory **£458.85**

AMIGA A500 PACK 3
with Mouse, Workbench, Basic, DPAINT, Demolition, Space Battle, and Cruncher Factory **£429.95**

PHILIPS 8833 COLOUR MONITOR
High Res with Stereo Sound Output **£279.95**

AMIGA A500
Upgrade to 1 Mb **£113.00**

AMIGA A500/8833 MONITOR OFFER
AMIGA A500 with **PHILIPS 8833 HIGH RES COLOUR MONITOR** with STEREO SOUND OUTPUT, Mouse, Workbench, Basic and DPAINT Software **£699.95**

COMMODORE 1084 HIGH RES MONITOR **£329.95**

AMIGA A500 PACK 2
with Mouse, Workbench, Basic, DPAINT, 40 Disc Storage Box, Dust Cover, 10 Games/Utility Discs, plus Demolition, Space Battle and Cruncher Factory . **£438.85**

AMIGA 1Mb 2nd Drive **£129.95**
Including 10 3½" Discs

AMIGA A2000 COMPUTER with **COMMODORE 1084 HIGH RES COLOUR MONITOR**
Including 1 year on-site maintenance . **£1259.00**

WRITERS WORKSHOP 128 ..... **£34.95**

FONT PACK 1
Additional fonts for Geos **£16.95**

GEOFILE
Geos-based Database **£24.95**

GEOSPELL
Geos Spellchecker **£16.95**

NEW COMMODORE PRODUCTS

MPS1200P
Dot Matrix Printer **£229.95**

MPS1500C
7 Colour Dot Matrix Printer **£349.95**
Both include AMIGA Printer Lead

1581 3½" Disc Drive **£199.95**
Including 10 3½" Discs

HIGH PERFORMANCE 24 PIN Dot Matrix Printers
with Immaculate Letter Quality Mode

NEC 2200
★ 168 cps Draft, 56 cps LQ ★ Friction/Tractor Feed ★ 8K Buffer
★ 360 x 360 Graphic Resolution **£379.00**

AMSTRAD LQ3500
★ 135 cps Draft, 45 cps LQ ★ Friction/Tractor Feed
★ Over 100 Typeface Combinations **£299.00**

Both printers include AMIGA Printer Driver Software

CITIZEN 120D DOT MATRIX PRINTER
Commodore Version (with 64/128 Printer Lead) **£159.95**
Centronics Version (with AMIGA Printer Lead) **£159.95**
Commodore 1901 Colour Monitor **£219.95**
Philips 64/128 Green Screen Monitor **£89.95**
Commodore 1541C Disc Drive **£159.95**
Philips Colour TV Tuner
For use with any composite monitor including 1701, 1801, 1901 & 8833 ..... **£78.95**

PERSONAL CALLERS AND EXPORT ENQUIRIES WELCOME

ALL OFFERS STRICTLY SUBJECT TO AVAILABILITY
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ALL PRICES INCLUDE V.A.T. UNLESS OTHERWISE STATED

To order, either send cheque/P.O. with coupon or ring **(0533) 517479/21874** with Access/Barclaycard number. Please allow 7 working days for delivery from receipt of order or cheque clearance.
Please add £1.00 towards carriage and packing on any software order.
Hardware orders add £1.00 under £65.00 value, and £5.00 over £65.00 value.
Printer orders add £5.00 towards carriage.

Send to: Dept. No. CCI 4, Dimension Computers Ltd.,
27/29 High Street, Leicester LE1 4FP.
Tel: (0533) 517479/21874 Fax: (0533) 511638

Item	Quantity	Price
	Total	

Name .....

Address .....

.....

Telephone: .....

Talking Desk Diary

Important things are often forgotten, when diaries cannot be consulted, for example. But a new product from Commend, the Voice Diary and Messaging System, eliminates many of these problems.

With this system, a users' voice is digitally recorded with keyed-in codes representing times and dates. For instance, to remind oneself of an appointment at 10.30am, 1030 is dialled in and a message recorded. At 10.30am, the system replays the message.

The desk unit is finished in ivory, brown or black, and measures 9.5 inches long.

Accodata's Filter

Accodata's new glass and roller screen filters are claimed to reduce up to 80% of reflected screen glare and eliminate electrostatic build up around the computer operator which can easily provoke headaches, eye strain and skin disorders.

The new glass screen filter, available in five sizes to cater for more than 90% of screen sizes, is constructed from low transmission anti-reflective glass optically coated on both sides and attached to the VDU with a self-adhesive mounting channel.

Intended for use with either mono or colour monitors, the glass filters are scratch resilient and provide distortion-free viewing with increased image contrast. They are most effective in reducing the brain's perception of screen flicker that is not visible to the naked eye but a major cause of operator headache. The halo or shadow effect is also eliminated which can effectively reduce complaints of eye strain and blurred image.

Accodata glass screen filters are priced at £79.50 plus VAT.

The Accodata roller blind screen filter is an ingenious design and available in three sizes suitable for all monitors. It can be restracted for screen cleaning which eliminates the need for removal and storage and possesses a specially metallized mesh to reduce harmful emission and an earthing cable to eliminate static.

Static can be a real problem in today's well heated offices. Up to 30,000 volts of tension are required to form a picture on a colour VDU. The associated generation of positive electrostatic fields causes leakage through the picture tube whichis attached towards the operator as humans naturally generate a negative field. Natural pollution, present in any office environment and drastically increased if smokers are present, possesses positive charge and tends to be repelled by the screen and attracted by the operator. Consequently more dirt is deposited on the face of the operator than on the screen and we all know how dirty screens become.

The Accodata glass screen filters are priced at £64.50 to £74.50 plus VAT.

Contact: Accodata, Tel: 0732 885555 or Paul Thompson, Harvard Marketing Services Ltd., Tel: 01-759 0005.

Cybernoid from Hewson

Cybernoid — the fighting machine is coming from Hewson and written by Raffaele Cecco, author of hits Exolon and Equinox, Hewson believe it is going to blast its way into the charts following its illustrious predecessors.

Plasma pulsers, position disrupters and mega missiles are just a few of the screaming attack vehicles which planet-hopping space pirates fling at your bristling Cybernoid as you blast to relieve them of their ill-gotten gains.

Your cybernoid ship is crammed with weaponry including drop bombs, horizontal beamers, climber balsters, mines, shields and the lighning wizardry of the lazer bouncers. Bolt on collectables — cannons, battering rams and generators build your invincibility.

On Commodore 64/128 £9.95 (c) and (d) £14.95.

Motormonitor

Inspectorate UK of Loddon in Norfolk has developed software that enables induction motor faults, or incipient faults, to be detected while the motor is running.

Called Motormonitor, the software runs on IBM personal computers, and no special experience is needed to operate it. The user simply enters data about the type of motor and after analysis of the current in one of the motor's windings the program makes one of 26 possible recommendations.

These range from "running OK" to "remove from service immediately".

Logic bomb charge fails to go off

A consultant accused of planting logic bombs in a company's computer was freed when the judge ruled he had no case to answer.

James McMahone (32) from Watford, had pleaded not guilty to four charges of criminal damage and one of attempted damage, to disks and systems owned by Pandair Freight.

The trial made legal history as "the first case ever prosecuted in the Crown Court in which the act of criminal damage is alleged by the insertion of a code into a program and a disk", said David Radcliffe, prosecuting.

The judge, Derek Holden, however said the evidence was unsatisfactory. He directed the jury to acquit McMahon.

The court heard that in 1985 McMahon was employed by Pandair Freight to write file handler software for use on its Dec PDP-11 computers.

He was alleged to have coded in three logic bombs, either for revenge at losing a contract for a system at a different company, or as a means of keeping his company regularly employed with maintenance work.

The first bomb went off at Heston on 7 January 1986 causing the computer system to work on only four of 20 terminals.

"After four and a half weeks in court, it had been established that there were only two people who had the technical ability and the user-specific information about the victim's computer operations to have bombed the computer, the defendant and the chief prosecution witness," said defence barrister, Alistair Kelman.

The virus presently causing concern in the Amiga software is a form of logic bomb.

EA's Big Fantasy

Electronic Arts has announced the release of ***Deathlord***, which it claims as one of the largest, most intricate fantasy role-playing games ever released.

"The dimensions of ***Deathlord*** are staggering," said Joe Ybarra, Vice President of Electronic Arts' Interactive Stories Division. "You've got to storm 157 of the trickiest dungeon levels we've ever created, face 128 different kinds of monsters, explore 16 separate continents, master 84 magic spells, and deal with the problems posed by changing climate, weather, and time of day." David Wong and Al Escudero, co-designers of ***Deathlord***, also added some features that will be new to fantasy gamers — like macro commands that speed up play by reducing the number of keystrokes; the ability to negotiate with monsters instead of automatically engaging them in combat; and opponents who have varying levels of intelligence."

Players create six-character parties that represent a group of warriors, charged with ending the ***Deathlord's*** evil and restoring peace to the land. "The game has strong Japanese overtones, especially in the armour and weaponry," Ybarra added. Users may transfer characters from *The Bard's Tale , Wizardry 1, II or III,* and *Ultima III* , and use them in 16 character classes.

Deathlord will be available for the Commodore 64/128 in late Spring.

continued on page 13

H & P COMPUTERS UK

Are you still paying high prices for disks??
Look at our high quality, low cost disks!

10 5.25in DS/DD FLOPPY DISKS
ONLY £6.00 incl

or

20 5.25in DS/DD FLOPPY DISKS
ONLY £11.00 incl

All disks include U.K. p&p and are fully guaranteed

WE'VE SMASHED THE PRICES OF 3.5in DS/DD DISKS!

You no longer need to pay high prices to get high quality disks!

10 3.5in DS/DD DISKS
ONLY £15.00 incl

20 3.5in DS/DD DISKs
ONLY £29.00 incl

SMART DISK BOXES AT EVEN SMARTER PRICES!!

3.5in Disk boxes, holds 80 disks	**Only £12.50**
5.25in Disk boxes, holds 50 disks	**Only £9.50**
5.25in Disk boxes, holds 100 disks	**Only £11.50**

SPECIAL OFFER!

£1.00 off any disk boxes when you buy 20 or more disks!

CONNECT IT TOGETHER WITH OUR QUALITY CABLES

CPC/1 C64/128 centronics printer cable ..... **£15.00 incl**
CPC/2 2 mtr. Serial Extension cable C64/128 ..... **£7.00 incl**
CPC/3 C128D Keyboard Extension cable ..... **£15.00 incl**
CPC/4 Amiga 1000 Printer Cable ..... **£15.00 incl**
CPC/5 Amiga 500/2000 Printer Cable ..... **£15.00 incl**
S/PC/6 Amiga 1000 Serial Cable ..... **£15.00 incl**
S/PC/7 Amiga 500/2000 Serial Cable ..... **£15.00 incl**
ATC/1 Atari Printer Cable ..... **£5.00 incl**
ATC/2 Atari Serial Cable ..... **£15.00 incl**

C64/128 RS232 INTERFACE

The H&P Computers Commodore RS232 interface is a full industrial standard RS232 interface with all handshaking lines, that plugs into the user port. It will fit all modems and printers with a 25 way D connector.

ONLY £25.00 incl.

And we can give you an xmodem comms program on disk . . . FREE!!

C64/VIC 20 COMPATIBLE POWER SUPPLY

Fuse Protected & Fully Repairable with 12 Months Guarantee! **ONLY £19.00**

CUMANA CAX 354 AMIGA DISC DRIVE

Full 880k of formatted storage for either A500 owners or users of system 1 and 3 A1000 series

NOW ONLY £125.00 incl!

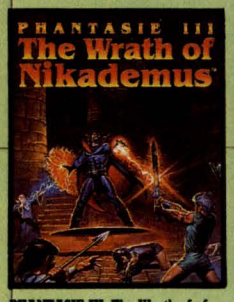
ORDERS TO DEPT C.C.I.

H&P COMPUTERS U.K.
9 Hornbeam Walk, Witham, Essex CM8 2SZ
24 hour telephone answer machine service for Access orders on (0376) 511471

SSI STANDS OUT FROM THE CROWD

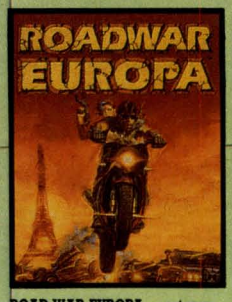
For the player who's tried everything but demands something more – action, excitement, strategy and mind blowing simulation – there's a brand of computer entertainment that stands out from the rest. Why accept the bland and the dull when role playing fantasies and all action simulation provide a unique inspiration and challenge?
Why accept second best when SSI offer quality and entertainment unrivalled in its field?

SSI



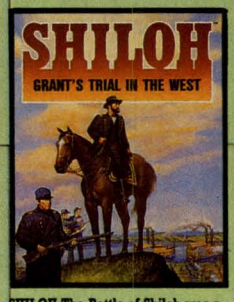
PHANTASIE III: The Wrath of of Nikademus™ is more than a sequel. It is the final confrontation between your band of six adventurers and the Dark Lord Nikademus and his army of vile beasts and creatures!

CBM 64/128	Disk £19.99
ATARI ST	Disk £24.99
AMIGA	Disk £24.99
APPLE	Disk £19.99



ROAD WAR EUROPA – not your average tour of Europe. As the leader of a large road gang your mission is to save Europe from the hands of maniacal terrorists.

CBM 64/128	Cassette £14.99 NEW
	Disk £19.99
IBM	Disk £24.99
ATARI ST	Disk £24.99
AMIGA	Disk £24.99

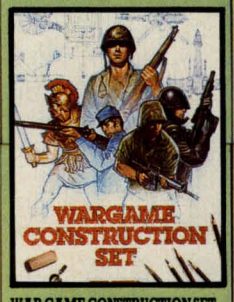


SHILOH The Battle of Shiloh was a seesaw affair that could easily have been a Union defeat or victory. Now, you determine the outcome of Grant's fearsome trial – and his destiny.

CBM 64/128	Disk £19.99
APPLE	Disk £19.99

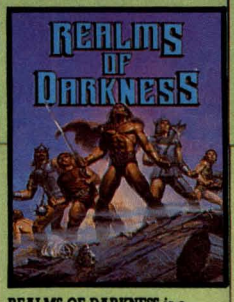
B24 is a flight/combat simulator that challenges you to fly 19 dangerous bombing raids over Hitler's oil refineries at Ploesti, Rumania. If you succeed you'll be told how much you would have shortened the war in Europe!

CBM 64/128	Cassette £14.99
	Disk £19.99
IBM	Disk £24.99



WAR GAME CONSTRUCTION SET lets you design and play a near limitless number of simple and complex wargames – create your own maps, troops, weapons and battles.

ATARI ST	Disk £19.99
CBM 64/128	Disk £19.99
ATARI ST	Disk £24.99

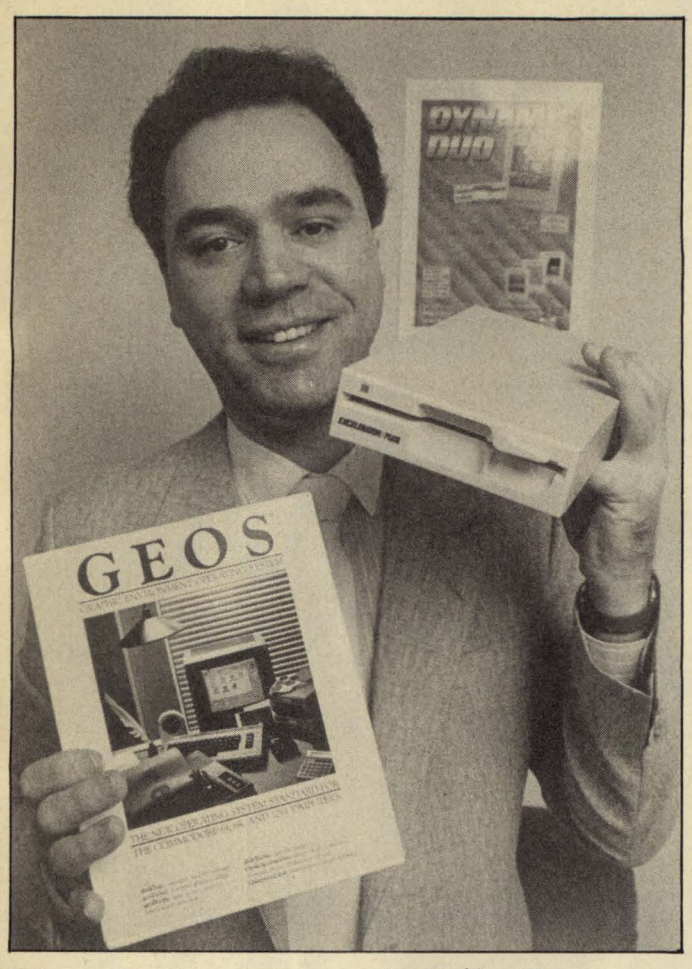


REALMS OF DARKNESS is a challenging, multi-faceted adventure game. Guide up to eight adventurers on seven different quests, to solve the increasingly difficult puzzles that block your path to glory.

CBM 64/128	Disk £19.99

U.S. Gold Ltd.,
Units 2/3 Holford Way
Holford Birmingham
B6 7AX.
Tel: 021 356 3388

U.S. GOLD



Evesham Cuts Dynamic Duo Price

Evesham Micros have reduced the price of their Excelerator disk drive which, is now bundled with GEOS, by £30 to £129.95 and for £149.95 the package is also available with the Freeze Machine.

For some time now Evesham have enjoyed an increase in the level of Excelerator sales. This improving popularity coupled with the weak dollar has enabled Evesham to reduce the price, thereby passing these benefits directly to the customer.

At its previous price of £159.95 the Excelerator was £30 cheaper than Commodore's latest disk drive and as GEOS (Graphic Environment Operating System), which is considered by many to be the leading graphic package for the Commodore 64, has a reconnended retail price of just under £50 and the freeze machine sells just under £30, Evesham believe that the new price is unbeatable.

Evesham Micros' Managing Director, Richard Austin, said "Never before have we been able to offer our customers a package of such outstanding value and I anticipate an even greater increase in the sales and popularity of our products."

Contact: Evesham Micros 0386 765500

Linel Goes Crack!

Linel the Swiss programming team who created Goldrunner and the brilliant Insanity Fight, (the Oskar winner for the best Arcade game) are finishing a Breakout style game for the Amiga — called Crack. It promises to be a successful as Linel's earlier hits. It will have, Linel tells us, superb background graphics, several modes to choose from including one or two player and battle mode and there is also a choice between mouse and joystick.

One interesting and original idea will be a bonus game between levels. This is a comic-style character called Herbie Stone who has to catch as many coconuts as possible and jump over nasties like snakes. It seems that Linel is planning to include Herbie Stone in many of its future games.

Crack will also include a construction set to produce your own levels, though with a reputed 120 levels already included — possibly, they say, rising to 700 levels — it would seem that Crack will have more than enough to challenge any Breakout addict.

Virus at Ten

The Virus on the Amiga has reached such proportions that it has now received national coverage on U.K. TV's News at Ten. For those of you who did not see it, there was a short explanation in very simple layman's terms of how it works. It was referred to as "High Tech vandalism". Reporter Lawrence McGinty treated us to a "reconstruction" of an extremely shady-looking character placing a disk into an Amiga in a shop with the intention of spreading the virus. Interestingly, Tony Deane, of Silica shop was heard to say in an interview that for a shopkeeper it is "quite a serious problem." He says that "He's got a lot of software on the shelf that's cost him a lot of money and as soon as he gets a computer that's got the virus, that can infect one of his disks and that can then be transferred to his other shop stock. So he could end up with thousands of pounds of software being wiped out." — Hasn't anybody told Tony that the virus cannot penetrate plastic packaging? Always buy software in its original wrapper. This is the best assurance of its new condition. We were amused also, to hear that engineers at one of the biggest distributors of the Amiga "have devised a virus killer program." Could this have been promoted by the overwhelming response to our own Virus Killer offer? Remember where you saw it first, folks!

A New Constellation Is Born

An amalgamation of European and American publishers has produced a new name in software distribution — Constellation Software. The brainchild of Juan Holz and Jerry Wolosenko, it was formed with a view to making programs more universally available. They are currently undertaking a unique program aimed at getting more European software titles to the United States. American distributor response has been very enthusiastic and more than $150,000 worth of wholesale orders were placed for immediate shipment. To sum up Juan Holz said, "Recreational software is a global product. Its international distribution has been limited by misconceptions, ignorance and outright exploitation. Constellation was organized to eliminate those artificial impediments to international trade."

Contact: Constellation Software, 17 Saint Mary's Court, Brookling, MA 02146. (617) 731-8187.

Machine Vision

Machine Vision, in which a video image is examined by complex digital circuits to recognise shapes and patterns and make decisions on production lines, has been taken a step further by US company Cognex of Needham, Massachusetts.

The company has designed an application-specific integrated circuit (ASIC) that carries out a number of processes in machine vision which would otherwise need nearly 100 off-the-shelf chips. It also loads at three times the speed and about a tenth of the cost of the equivalent conventional circuits of Cognex's current machine vision products.

The company will incorporate the chip into its next generation of systems and will also be making it available to other system manufacturers. Advantages are higher preformances, lower cost and more compact equipment.

STAR COMPETITION NO. 1

TOP SECRET!

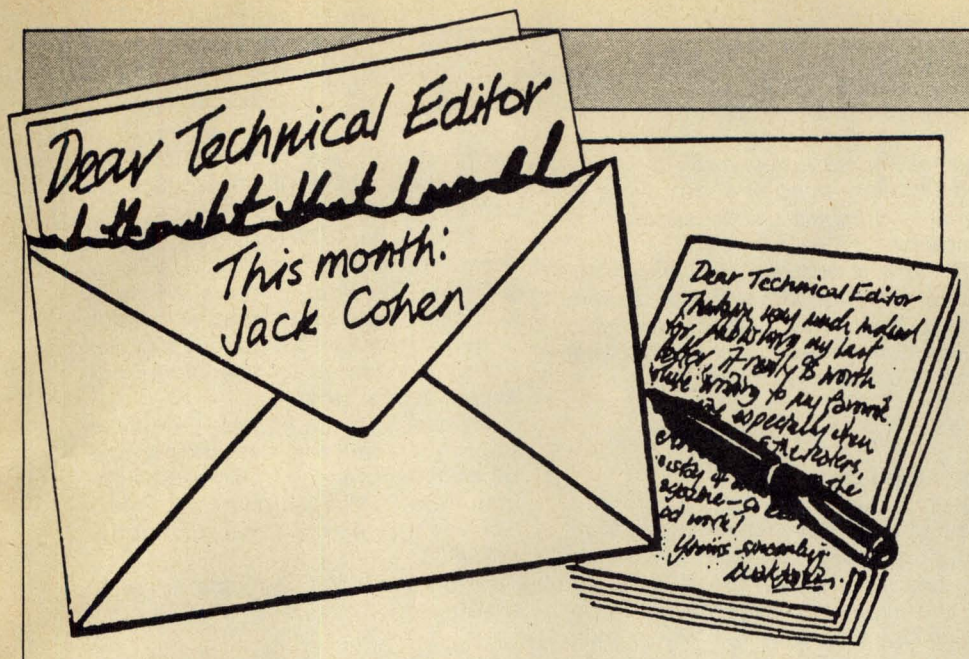
NORTHSTAR

Gremlin are releasing a new game called Northstar. It is still a top secret that will no doubt be revealed in full in next month's CCI and all we can tell you now is that it is set in the year 2499 (you will of course be still around, won't you?) and is about a space station called — yes, you guessed it — Northstar. Gremlin tell us that Northstar is an arcade game that will blow your mind far out into the very edges of the universe. You can even become one of the Masters of the Universe itself. (Just a minute! Masters of the Universe? Is that another Gremlin game? Is the wrong competition creeping in here?)

Anyway, if you had a strong enough telescope, Gremlin tell us you might be able to scan the universe and see Northstar. (Yes, we know you don't believe anything any software house tells you, but you never know . . .). So Gremlin are offering an amazing telescope to help you try. That's if you win the top prize in this Northstar Comp. It is a Tasco 150 x 50 mm. That means 150 times magnification with a finderscope for locating stars and it is a 35 mm magnification microscope! All you have to do to win this super-duper Mount Palomar style prize is answer the questions.

1. Name three kinds of stars
2. Who were "star-crossed lovers"?
3. Who was the star in the movie 'A Star is Born"?
4. How many stars are there in the U.S. flag?
5. Who is Gremlin's animal star?

First all correct answer drawn out of the Comp Sack by the lovely hand of Comp Princess Tessa gets the telescope and a Northstar game. Next 25 get T-Shirts. No, not Northstar but Master of the Universe T-shirts. (You thought we'd forgotten that bit, didn't you?) So put your T-Shirt size on the postcard — or you'll get extra tiny! To Gremlin's Northstar Competition, c/o CCI, 40 Bowling Green Lane, London EC1R 0NE by May 15th.



Dear Technical Editor
Can you please help me I recently acquired a Commodore 500 computer which when powered up returns "Commdore 128 4.0 Basic" can you tell me if this is compatible with 128 and 64 software.

Also the 10 function keys are all defined for disc operation but I would like to use a tape player as it has the cassette outlet port but I cannot find any commands suitable to load or save programs all I get is "device not present" so I would be grateful if you advise a way to overcome this. If not will any make of disk drive operate or will I have to buy a commodore compatible disc drive only.

Is there a 128 reference book available.
Yours faithfully
W. Archer
P.S. I wrote to commodore tech dept but all they told me was the computer was made 4 yrs ago but not released commercially but was sold for export and it was made in W/Germany.

The Commodore 500 (versions 510, 520, 530) not to be confused with the Amiga 500 was designed to use IEEE devices and it can, therefore, be used with 2040/3040/4040/8050/8250/SFD 1001 disk drives and the many IEEE printers. Although the PCB connector edge is present in the 500, I don't think that the code for the cassette is present in the roms.

This may well be because the machine was never sold commercially in the UK, where cassette users are many, but instead sold abroad.

As far as I know there is no reference book available, although I did see a draft of a book some years ago.

However here are some details:—
It uses BASIC 4.0 with LOGO graphics, and the outputs are cartridge port, audio, IEEE 488, RS232C and two joystick ports.

Memory 128K expanding to 256K internal and 704K external. A total of 960K with 48K of rom. Provision made for future 280 or 8088 processors to be fitted for CP/M and CP/M86.

Dear Technical Editor
I recently swapped my C16, for a C64. I have found it has a lot less commands.

I have learned that "Simon's Basic" cartridges eat up memory and leave you with little basic.

Can you please tell me if "Final Cartridge 3" does the same thing, as I can only get a lot of salestalk and no straight answers from the stockist we have spoken to.
Yours sincerley
M. A. Winsor

Final Cartridge 3 does not eat up basic program memory. Good cartridge software does not require any of the basic program area and other memory is only used for temporary storage.

Dear Technical Editor
I have a CBM Model 4032 (basic version 4.0) and a 4040 disk drive. I would be very grateful if you can give me some adivce.
1. POKE 144,88 disables the stop key but has the drawback of turning off the clock. Could you please give me a poke command which disables the stop key but not the clock? I'm afraid I don't know anything about Machine Code, just Basic itself.
2. I am trying to make a menu program which reads from disk like this:
1. (filename) 2. (filename)

This is without the header, blocks free and the quote marks. Please can you give me a suitable program which asks a prompt so that I can make loading and running the program easier? This should have a key buffer accompanying the loading and running. Also to ask me what program to run and the numbers to key in.
Thanking you in anticipation
Yours sincerely
Gavin Fabré

1. There are no simple poke commands for this on the 4032 although there are available on the 64.

For readers with a knowledge of machine code:—
Insert the following routine into the IRQ routine (40 col Basic 4 only)
JSR$FFEA updates clock & copies $E812 for stop test.
LDA 0$FF
STA $9B no key when E812 pressed
JMP $E458 continues normal interrupts
The clock will run normally whilst the STOP key is disabled
2. I can't give you a whole program for reasons of space, but a suitable main routine to pull in the directory names into a program which you can then manipulate is as follows:—

```
10 OPEN 15,8,15,"10": rem t=18:k=1
20 DIM A$(256), T$(100)
30 OPEN 8,8,8,"0
40 INPUT015,EN,EM$: IF EN THEN PRINT EN;EM$:STOP
50 PRINT015,"U1:8,0,T,S"
60 INPUT015,EN,EM$: IF EN THEN PRINT EN;EM$:STOP
70 FOR I=1 TO 256
80 GET08,A$(I)
90 IF A$(I)=" " THEN A$(I)=CHR$(0)
100 NEXT
110 FOR I=3 TO 256 STEP 32
120 T$(k)= " "
130 FOR J=(I+3) TO (I+19)
140 IF A$(I)=CHR$(160) THEN J=J+18: GOTO 160
150 T$(k)=T$(k)+A$(j):k=k+1
160 NEXT J
170 NEXT I
180 IF A$(1)=CHR$(0) THEN 200: REM THIS IDENTIFIES LAST SECTOR
190 s=ASC(A$(2)):GOTO 60
200 REM continue program
```

Remember that T$(k) holds the k'th directory entry and can be used in the rest of your program and can be used to output the directory in the form you wish.

Dear Technical Editor
I am the owner of a CBM 64C computer and recently I purchased a 1570 Disc Drive. Please don't think me stupid, I may sound it but is there a programme for setting a disk up. (A directory) In the owners manual its states that you must format a disc. How do you do that? Please, Please help me as I am getting rather frustrated!!!!
S.J. Smith, Luton

To format a disk use the full commands which work for all Commodores except the Amiga and PC's.
OPEN 15, 8, 15 "no:disktitle, id":c lose15
where 'ID' is any two letter or number combination.

continued on next page

Dear Technical Editor
I have encountered a rather strange problem, whilst trying to "IMPUT#1" ed array from tape I got a string too long error. I tried to find out the cause of this irregular behaviour and found out that this error occurs whenever the array variable (i.e. A$(u)) has nothing assigned to it, meaning that you get a string too long error when trying to "INPUT#1" an AS(s) which has no length at all (LENCA$(s))=0) I checked and re-checked. I even presented this problem to various C64 owners and computer language teachers. Everyone got the same baffling result. So it seems that there is a strange hardware problem in the Commodore 64. I thought of using flags for the empty A(u)'es but that will take a lot of time.

Can you suggest another, yet better solution to this dilemma.
Ali Reza Okhouat Estahani, Turkey

I have checked this one and you are correct about the fault. The program crashes even when a$ is set to chr$(0). The solution is to test for a null string or chr$(0) with the following lines before saving data to tape.
If a$(n) = "" or a$(n) = chr$(0) then a$(n) = chr$(94) ' ' or any character that is unlikely to be used in your data.

After recovering data in your INPUT# line then use another line to reverse the transformation.
If a$(n)=chr$(94) then a$(n)=chr$(0).

Dear Technical Editor
I have recently bought a Commodore 1526 printer which I am very pleased with, but I have found that most graphic programs don't run on it, but they will run on a 801 or 803.

Is there any way of converting the 1526 (802) to run on the 801 programs as I haven't found any programs which are compatable with the 1526.

Certain programs will run on both but I have found them to be mainly databases.

Could you also help me out with a little problem I have a copy of Rainbird Advanced ocp art studio. With it you can configure the program to work on different printers. you have to answer certain questions which I cannot find the answer to in the 1526 handbook, they are:
a) At the start of the dump eight bytes are sent to the printer to set it up for bit image printing.
b) What are the codes to set up the printer to print a line in bit image mode?
c) Does the printer support bit image printing in double density, if so how many dots per line?

Please could you answer the above questions so I can use the art studio program.
Yours hopefully
Mick Greaney

The 1526 is not a true graphics printer and the only thing you can do is to simulate graphics using user defined characters.

This is why most graphics printers will not run with the 1526 (MPS 802). If there is no mention of BIT IMAGE printing in the manual then you can assume that it is not supported by the Printer.

Dear Technical Editor
I recently purchased a monitor for my C128 so as to drive 80 columns I then bought a version of GEOS 128 which provides utilities for the 128 in 80 column mode. However, I seem to be having some difficulty with 80 columns when running GEOS in 80 column mode I get sporondic changes of pixels on the screen, i.e. pixels just appear for no reason. I have no other 80 column software that works in Hi-Res so I cannot compare programs, so I have the following question.

1. Is this a bug in GEOS. It is very annoying, especially in GEOPAINT, when pixels just appear, corrupting the screen?
2. If not, is this a common problem among C128 uses with the 80 column chip?
3. Is is possible my 80 column chip is faulty?

If this is the case, how easy would it be for me to replace the chip?
Thanks for your help
D. Kelsey

Your problem is due to a faulty diskette and not to the software. Ask your supplier to replace your copy with a good one. Ribbons for the Seikosha SP180 are available from ACTION COMPUTER SUPPLIES. (same as SP1000) on (freecall) 0800 333 333.

Dear Technical Editor
A problem in respect of which I would appreciate your assistance.

In the issue of August 1987 was a program "True Descenders" which apparently at least helped, if not fully resolved, the 'descenders' problem on MPS 801/803 printers, (and I have both). However, I have not been able to prove whether or not this program is in fact as good as it appears as I cannot get it to "lock into" my word processor base program.

On running, I get confirmation from the checksum that my data lines are correctly entered and then the request to enter my file name. Now my word processor is the "Home-writer 64" supplied by Gemini (as was) and I enter this name; in response which I get "Error 64" and "Another File?" which I have no chance to answer as I also get rapid scrolling. Whatever variations of a file name I experiment with all produce the same negative result.

I note from line 200 of the program, a reference to "Easyscript". I am to presume that this program will only service the Easyscript Word Processor — and no other? If so, can any suggestions be made as to amendments to accommodate others?

My own MPS 801 has been modified to print out with true descenders (and others types of script) with the Printer IV chip from Datel Electronics but unfortunately they do not so provide for the MPS 803.

I hope you will be able to offer assistance.

Yours faithfully
C. L. Chappell

Without going to the lengths of disassembling the machine code portion of the program I don't know if it is specific to Easyscript files.

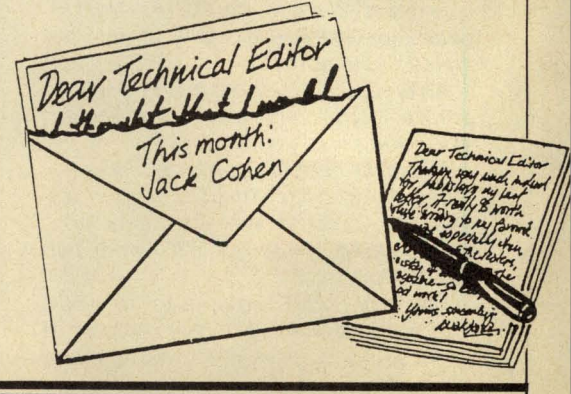
However I can tell you that the program (see line 240) is looking for a sequential file put out by a word-processor.

So if you answer the question in line 210 with a program name then you must expect it to crash.

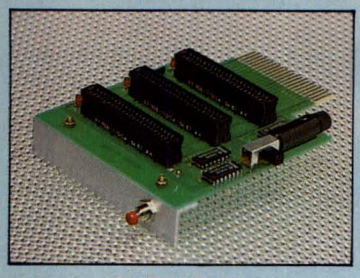
Try the name of a SEQUENTIAL FILE produced by your wordprocessor.

Dear Technical Editor
Please can you tell me if there is yet available any interface or replacement chip or software that would enable me to print hi res graphics on my MPS802 printer using the C64?
DR. L. Hall, Tasmania

Hires graphics can be implemented in the MPS802 but rather crudely. This is because the MPS802 does not have a graphics mode like the MPS801. Graphics can only be obtained using the single USER DEFINED CHARACTER and because only one such character can be used per line then Multiple Overprints are necessary to achieve a complete line of graphics. Also refer to my answer in the FEB 88 issue.



DATEL ELECTRONICS



3 SLOT MOTHERBOARD

Save wear and tear on your Expansion Port

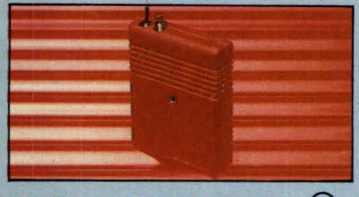
- ❑ Accepts 3 cartridges.
- ❑ Onboard safety fuse.
- ❑ Switch in/out any slot.
- ❑ High grade PCB.
- ❑ Fully buffered.
- ❑ Reset button.

ONLY £16.99

DATA RECORDER

- ❑ Quality Commodore compatible data recorder.
- ❑ Pause control.
- ❑ Suitable for 64/128.
- ❑ Counter.
- ❑ Send now for quick delivery.

ONLY £24.99



SMART CART ™

Now you can have an 8K or 32K cartridge that you program like RAM then acts like ROM!

- ❑ 8K or 32K pseudo ROM.
- ❑ Battery backed to last up to 5 years (lithium battery).
- ❑ Simply load the program you require – then flick the switch. The cartridge can then be removed just like a ROM cartridge.
- ❑ Make your own cartridges including autostart types – without an EPROM burner.
- ❑ Can be switched on or off board via software.
- ❑ I/O 2 slot open for special programming techniques.
- ❑ 32K version has 4 x 8K pages.
- ❑ Some knowledge of M/C is helpful – but full instruction are provided.

8K VERSION £14.99
32K VERSION £29.99

SMARTCART UTILITIES

A series of utility programs for use with Smartcart. Simply load in the program and you have a powerful cartridge. When you have a different requirement – load in another program and you have a new cartridge. The process takes seconds, and can be repeated any number of times.

We intend to release a range of programs. The first available are:

DISKMATE II

- ❑ all the features of Diskmate II (see ad).

Loaded in seconds – with full instructions. **ONLY £9.99**

PRINTER IV

Now you can turn your MPS 801 into 4 printers in one!!

- ❑ Alternative character set ROM – fitted in seconds.
- ❑ All four sets have true descenders.
- ❑ 100% compatible with all software.
- ❑ Descender. ❑ Eclipse.
- ❑ Scribe. ❑ Future.
- ❑ Choose any set at the flick of a switch.

"For anyone who uses their printer often this chip is a must. It's quick and easy to use and the end results are impressive" – Your Commodore, Jan 87.

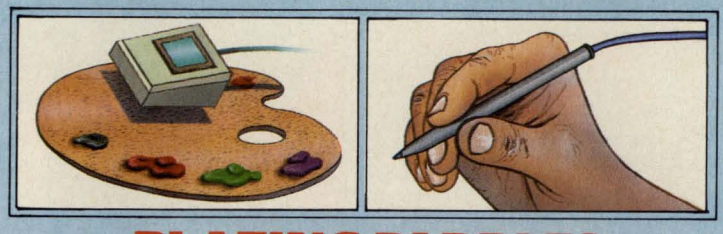
ONLY £19.99

TURBO ROM II

Turbo Rom II is a replacement for the actual kernal inside your 64. It provides superfast load/save routines.

- ❑ Loads most programs at 5-6 times normal speed.
- ❑ Saves at 5-6 times normal.
- ❑ Improved DOS support including 10 sec format.
- ❑ Programmed function keys:- load, directory, old, etc.
- ❑ Return to normal kernal at flick of a switch.
- ❑ FCOPY – 250 block file copier.
- ❑ FLOAD – special I/O loader.
- ❑ Plus lots more.
- ❑ Fitted in minutes – no soldering usually required. (On some 64's the old ROM may have to be desoldered).

ONLY £14.99



BLAZING PADDLES

A complete lightpen/graphics illustrator package.

- ❑ A fully icon/menu driven graphics package of a calibre which should cost much more.
- ❑ Complete with a fibre optical lightpen system for pin point accuracy.
- ❑ Multi feature software including:
  ● Range of brushes ● Airbrush ● Rectangle ● Circle ● Rubberbanding ● Lines ● Freehand ● Zoom mode ● Printer dump ● Load/save ● Advanced colour mixing – over 200 hues!! ● Cut and paste allows shapes/windows/pictures to be saved to/from tape/disk.
- ❑ Blazing Paddles will also work with many other input devices including; Joysticks, Mice, Graphics Tablets, Trackball etc.
- ❑ Pictures can be saved from Action Replay and edited with Blazing Paddles.

Complete Blazing Paddles & Lightpen **ONLY £24.99**

Blazing Paddles available separately for **£12.99**

TOOLKIT IV

The ultimate disk toolkit for the 1540/1541

- ❑ A disk toolkit is an absolute must for the serious disk hacker. Toolkit IV has more features than most for less.
- ❑ DISK DOCTOR V2 – Read and write any track and sector including extra and renumbered tracks. Repair damaged sectors. Look underneath read errors.
- ❑ HEADER/GAP EDITOR – Decodes and displays ALL header information including off bytes and header gap. Rewrite the entire header and header gap. Renumber sectors. Also edit any sector tail gap.
- ❑ DISK LOOK – Sort directory. Recover lost files. Display file start/end addresses. Disassemble any file program directly from the disk to SCREEN or PRINTER including undocumented opcodes. Edit Bam. Much, much more.
- ❑ FILE COMPACTOR – Can compact machine programs by up to 50%. Saves disk space. Compacted programs run as normal.
- ❑ FAST DISK COPY – Copy an entire disk in 2 minutes or less using single 1541.
- ❑ FAST FILE COPY – Selective file copy. Works at up to 6 times normal speed.
- ❑ FORMATTER – 10 second format an entire disk or format any individual track or half track 0 to 41. Redefine any of 30 parameters to create or recreate unique disk formats.
- ❑ ERROR EDIT – Quickly find and recreate all read errors including extra and renumbered tracks or sectors and half tracks from 0 to 41. Even recreates data under errors and allows you to redefine any necessary parameters.

ONLY £9.99

RAM DISK

- ❑ Turn your Smart Cart into a 32K RAM/disk.
- ❑ 32K of instant storage area for files/programs.
- ❑ Load/save instantly.
- ❑ Disk type commands: load, save, directory, scratch.
- ❑ Program data retained when computer is switched off!
- ❑ Full command set with instructions.

ONLY £9.99

DIGITAL SOUND SAMPLER

- ❑ The new sampler allows you to record any sound digitally into memory and then replay it with astounding effects.
- ❑ Playback forwards/backwards with echo/reverb/ring modulation etc.
- ❑ Now with full sound editing module to produce outstanding effects.
- ❑ Full 8 bit D to A and ADC conversion.
- ❑ MIDI compatible with suitable interface. (I.e. Datel unit for £29.99, see ad).
- ❑ Live effects menu includes real time display of waveforms.
- ❑ Line in/mic in/line out/feedback controls.
- ❑ Powerful sequencer with editing features.
- ❑ Load/save sample.
- ❑ Up to 8 samples in memory at one time.
- ❑ Tape or disk (please state).
- ❑ Complete software/hardware package **£49.99**
- ❑ Com-Drum software is available separately at **£9.99** to turn your Sampler II into a Com-Drum system as well as a sampling system.

COM-DRUM

Digital Drum System

- ❑ Now you can turn your computer into a digital drum system. ❑ Hardware/software package.
- ❑ 8 digital drum sounds in memory at one time.
- ❑ Complete with 3 drum kits.
- ❑ Real drum sounds – not synthesised.
- ❑ Create superb drum rhythms with real and step time. ❑ Full editing. ❑ Menu driven.
- ❑ Output to hi-fi or through tv speaker.
- ❑ Load/save facilities.

ONLY £29.99 (state tape or disk)

COM-DRUM EDITOR

- ❑ 24 drum sounds supplied on disk to enable you to construct your own drum kit.
- ❑ Re-arrange sounds supplied with a Com-Drum to make new kits.
- ❑ With sound sampler hardware you can record your own kits. ❑ Load/save facilities.

ONLY £4.99 disk only

ROBOTEK 64

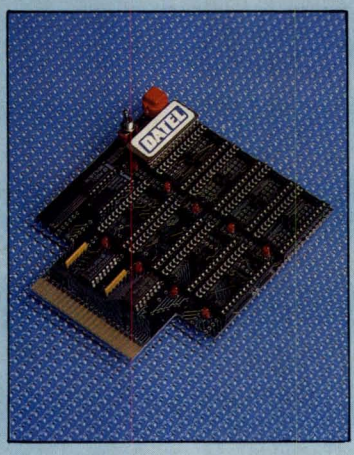
Model & Robot Control made easy

- ❑ Robotek 64 is a comprehensive hardware/software package which enables you to connect your 64/128 to the outside world.
- ❑ 4 output channels – each with onboard relay
- ❑ 4 input channels – each fully buffered TTL level sensing.
- ❑ Analogue input with full 8 bit conversion.
- ❑ Voice input for voice control.
- ❑ Software features:- test mode/analogue measurement/voice activate/digital readout etc.
- ❑ Excellent value! **ONLY £39.99**

including hardware/software/mic etc. (State tape or disk)

DATEL ELECTRONICS

256K SUPEROM EXPANDER



- Now you can select from any of 8 32K EPROMs instantly.
- 8 sockets to accept upto a 32K EPROM in each.
- On board operating system – no programs to load.
- Program your own EPROMs using our EPROM programmer.
- No need to have loads of cartridges – just make a selection from the Superom menu.
- Directory of utilities on power up.
- Fully menu driven on power up.
- Select any slot under software controls.
- Unique EPROM generator feature will take your own programs – basic or m/c and turn them into autostart EPROMs. (EPROM burner required).
- Accepts 2764/27128/27256 EPROMs.
- On board unstoppable reset.

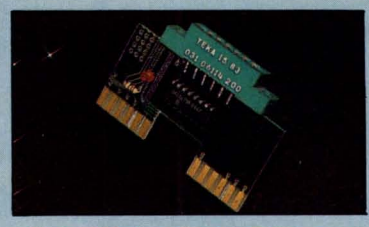
ONLY £29.99

4 WAY KERNAL BOARD

- This board fits in place of the kernal in your 64 and accepts a 16K or 32K replacement kernal giving 2 or 4 different operating systems.
- Just flick the switch supplied to select between systems.
- This is a carrier only – ready to accept your own chip.
- Now you can have all your different systems available at one time.

ONLY £8.99

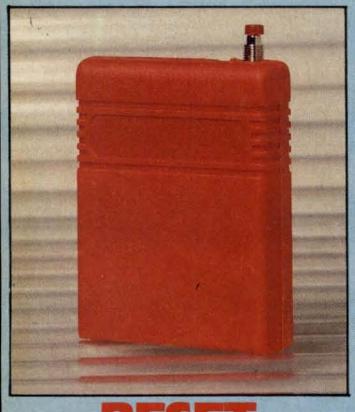
5 WAY BOARD **ONLY £12.99**



CLONEMASTER™

- Makes tape to tape back-ups.
- Works with even Turbo Loaders etc.
- Requires access to two CBM type data recorders.
- Makes perfect copies.
- Very simple to use.
- LED level indicator.

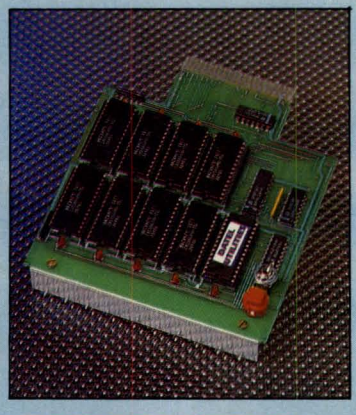
ONLY £9.99 POST FREE



RESET CARTRIDGE

- Unstoppable reset button.
- Resets even so called "unstoppable" programs.
- Add pokes from magazines etc.
- Fits in cartridge port.
- Simply plug in.

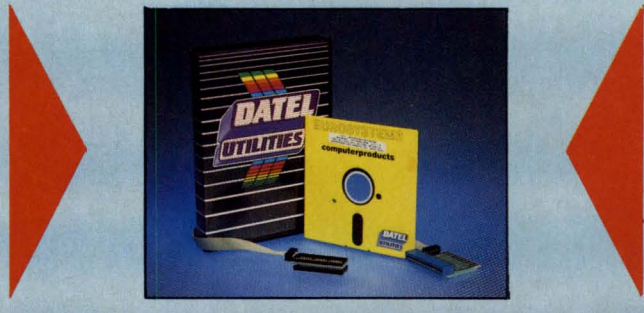
ONLY £5.99



DUPLIKATOR™

- Copies whole disk in one pass – only one drive required!
- Makes back-up copies in eight seconds!!
- Duplikator is the fastest, most efficient and easiest to use disk copying system ever conceived.
- Comes complete with 256K on-board ram and it's own operating system – no software to load.
- Makes multiple copies from one original.
- Full disk verification during back-up process.
- Copies standard software as well as errors 21-29 and upto 40 tracks.
- Full disk error check in eight seconds.
- Full disk verify against ram in fifteen seconds.
- A must for clubs, user groups etc. How else can you copy over 250 disks and hour for less than £100.
- Comes complete with on/off switch and reset button.
- Fitted in minutes – no soldering usually required.

ONLY £89.99



DEEP SCAN BURST NIBBLER™

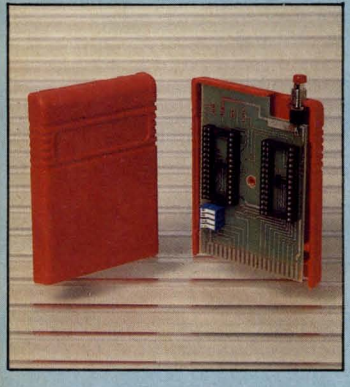
- The most powerful disk nibbler available anywhere, at any price!
- Burst Nibbler is actually a two part system – a software package **and** a parallel cable to connect the 1541/1570/1571 to 64/128 (state type).
- What gives Burst Nibbler its power? Conventional nibblers have to decode the data from the disk before it can transfer it using the serial bus – when non standard data is encountered they are beat. Burst Nibbler transfers data as raw GCR code via the parallel cable without the need to decode it so you get a perfect copy of the original.

- Will nibble upto 41 tracks.
- Copy a whole disk in under 2 minutes.
- Full instructions.
- Regular updates – we always ship the latest.
- Fitted in minutes – no soldering usually required.
- Full or ½ tracks.
- No need to buy parallel cable if you have Disk Demon/Dolphin etc.
- Cable has throughbus extension for other add ons.

- Whether to choose FastHack'em or Burst Nibbler? Fast Hack'Em is unbeatable value as an "all-rounder" – with nibblers, 1 or 2 drive copy, format, file copy, 1571 copy etc. etc., so if you have a more general requirement perhaps FastHack'Em is for you. Burst Nibbler is a pure nibbler second to none, for the reasons stated. So if it's just making backups you are interested in, there is no other product to beat it.

ONLY £24.99 COMPLETE

SOFTWARE ONLY £12.99 CABLE ONLY £14.99



16K EPROM BOARD

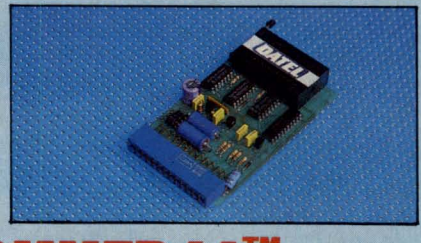
- Accepts 2 x 8K EPROMs.
- Switchable to configure as 2 x 8K or 16K or off.
- On board unstoppable reset.
- Full instructions.

ONLY £8.99

DISK NOTCHER

- Quickly and easily double your disk capacity.
- Use both sides of your disks.
- Simple to use.
- Takes seconds.

ONLY £4.99

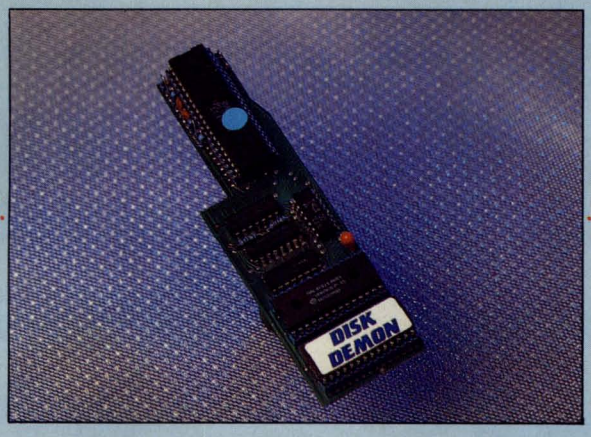


EPROMMER 64™

- A top quality, easy-to-use EPROM programmer for the 64/128.
- Fully menu driven software/hardware package makes programming/reading/verifying/copying EPROMs simplicity itself.
- Will program 2716, 2732, 2764, 27128 and 27256 chips. 12.5, 21 or 25 volts.
- Fits into user port for maximum compatibility with cartridges/Superom Board etc.
- Full feature system – all functions covered including device check/verify.
- We believe Eprommer 64 is the most comprehensive, most friendly and best value for money programmer available for the 64/128.
- Ideal companion for Superom Board, Cartridge Development System, our kernal expanders or indeed any EPROM base project.
- Comes complete with instructions – plus the cartridge handbook.

ONLY £39.99 COMPLETE

DATEL ELECTRONICS



PROFESSIONAL DOS ™ MIKROTRONIC

£64.99 POST FREE with Disc Demon operating system

"The world's fastest parallel operating system"

- ❑ Loads a typical 202 block program file in under 3 seconds!
- ❑ 60x faster load (PRG files).
- ❑ 25x faster load (SEQ files).
- ❑ 20x faster save (PRG files).
- ❑ 20x faster save (SEQ files).

PLUS AN ADVANCED COMMAND STRUCTURE INCLUDING:

- ❑ Fast format – up to 40 tracks (749 blocks).
- ❑ 16 function keys: list, run, load, directory, format, save, old, verify, etc.
- ❑ Fload will fastload files up to 250 blocks (other similar systems will only cope with 202 blocks).
- ❑ Number conversion. ❑ Reset.
- ❑ Unique built in file copier will copy files up to 250 blocks like lightning – multiple copy options – perfect for copying Action Replay files.
- ❑ Highly compatible with commercial software – can be switched out for non compatible programs.
- ❑ Perfect for use with Action Replay 3 – a typical AR3 backup will reload in about 3 seconds – yes 3 seconds!
- ❑ Speeds up other DOS functions including verify, scratch etc.
- ❑ Comes complete with superfast file and whole disk copier free!
- ❑ Screen on or off during loading.
- ❑ Enhanced command set – over 30 new commands.
- ❑ Easily fitted – Disk Demon plugs inside the 1541 and the new operating system chip plugs inside the C64/128. Fitting takes only minutes and usually requires no soldering.
- ❑ User port throughbus supplied free – you could pay £15.00 for this alone.
- ❑ Supplied complete – no more to buy.
- ❑ Works on C128/1541 in 64 or 128 mode.

C128 version

£69.99

BLUE CHIP DRIVE

● **Fully C64/128 compatible.**

- ❑ At last a top quality drive at a sensible price.
- ❑ Super slimline case
- ❑ External power supply for cool operation.
- ❑ Direct drive motor.
- ❑ Supplied complete with all cables – no more to buy.
- ❑ This drive is now probably the most compatible drive available for the Commodore. More so than even Commodores own 1541C. Much more so than other so called compatibles. In fact we have been unable to find a program including the latest that would not work. (At time of Press).
- ❑ **No need to look elsewhere – this is the best.**

ONLY £139.99 POST FREE

(If you require courier delivery add £5.00).

ULTRA CRUNCHER

● **The ultimate cartridge based program compactor.**

- ❑ Compacts by upto 30%!
- ❑ More programs for disk.
- ❑ 3 compacting programs on one cartridge.
- ❑ Fast loading/saving routines – works with Disc Demon.
- ❑ Can even further compact AR III files!
- ❑ 250 block file copy function.
- ❑ Full DOS support including fast format.

ONLY £12.99 on cartridge.
Available as chip only for 256K Superom Board for only £7.99

FAST HACK'EM ™

● **Multi Module Disk Nibbler – all on one disk.**

- ❑ Single 1541 Nibbler – Copy a disk in 2 minutes.
- ❑ Auto Nibbler – Copy an entire protected disk in 3 minutes.
- ❑ Super fast File Copy – Under 9 seconds typically.
- ❑ Copes with Fat Tracks.
- ❑ Superfast Copy – Entire disk in 36 seconds with verify.
- ❑ Twin Drive Copier – Even faster!
- ❑ Plus unique "Parameters" mode. These files "Unlock" the more heavily protected programs with a parameter for a particular brand or even single program.
- ❑ **No other product is such a good "All Rounder" at this price its unbeatable.**

ONLY £9.99 POST FREE

DISKMATE II

The Disk Utility Cartridge

- ❑ Disk fastload cartridge.
- ❑ Up to 5 times faster.
- ❑ Fast save. ❑ Fast format (10 secs).
- ❑ Improved DOS – single stroke commands – load/save/dir/old etc.
- ❑ Redefined function keys for fast operation of common commands.
- ❑ Powerful toolkit commands including: old/delete/merge/copy/append/autonum/linesave etc.
- ❑ Plus a full machine code monitor – too many features to list but it has them all!
- ❑ Special switching techniques make Diskmate invisible to the system. Therefore it is a more compatible fastloader than other types.
- ❑ Diskmate II is

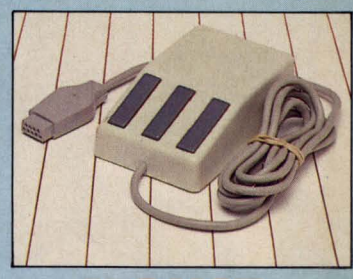
ONLY £14.99

MIDI 64

A Full Midi Interface for the 64/128 at a realistic price

- ❑ MIDI in. ❑ MIDI thru. ❑ 2 x MIDI out.
- ❑ Compatible with most leading software packages including: Seil, JMS, Advanced Music System, Joreth, Steinburg etc.

ONLY £29.99



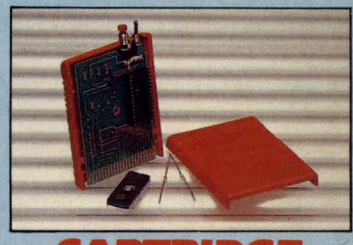
MOUSE

- ❑ CBM 64/128 mouse.
- ❑ Wide compatibility with software including: Blazing Paddles.
- ❑ Works by mimicking joystick so will work in any joystick application including graphic packages only designed for joystick.
- ❑ Functions on either joystick port.
- ❑ Optical system operation.

ONLY £24.99

CHIPS

- ❑ 27128 **£3.00 EACH**
- ❑ 27256 **£4.50 EACH**



CARTRIDGE DEVELOPMENT SYSTEM

- ❑ All the necessary parts to produce an 8K/16K auto-start cartridge.
- ❑ Top quality PCB. ❑ Injection moulded case.
- ❑ Reset switch. ❑ 16K EPROM.
- ❑ "Cartridge Handbook" gives full details and tips on building and configuring the cartridge for many uses.

ONLY £12.99
complete with handbook

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER . . . .

BY PHONE	BY POST	BY PRESTEL/FAX
0782 273815 24 hr Credit Card Line	Send cheques/POs made payable to 'Datel Electronics'	Prestel Pages # 25880000A Fax Orders 0782 264510

DATEL ELECTRONICS

UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT. TELEX:

SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

On 14th March

CCI IN CONJUNCTION WITH

BITS AND BYTES UNLEASH

Road Warrior

THIS COUPON IS WORTH £1

TOWARDS A PURCHASE OF ROAD WARRIOR

FOR THE COMMODORE 64

AT THE SHOP OR MAIL ORDER

18 Central Station, Ranelagh St, Liverpool, L1 1JT

EXPIRES 31st MARCH 1988

Graeme Kidd says he would not mind paying £20 for a game. Here he tells you why.

I wonder if the people who write and sell entertainment software have anything else left to try.

On the marketing side, companies have explored just about every possible 'price point' for cassette software, from £1.99 budget through £2.99 and £4.99 to the so-called 'full price' zone around a tenner, ending up with premium, top of the range games punted out around the £15 mark. And of course compilations offer games at the ultimate budget unit price. Disks, even the cheapo 5¼" variety which can be purchased in bulk for less than 20p a unit, command a higher price to start with, presumably on the grounds that the disks themselves are more expensive to produce and duplicate than cassettes. Taking into account the face that people who have the money to buy drives are richer and prepared to spend more for the convenience of fast loading, marketing men can hoik the price up a bit more than is really reasonable.

Just about every kind of box imaginable has been used to present software on the shelves, from the standard cassette box through custom plastic packages and cardboard cartonettes to weird and wonderful 'concept packages' like those used by the ill-fated Nexus. The containers have held all manner of 'freebies' along with the disk or cassette, trivia that accompanies World Cup Football or the blood capsules that rattled around scarily in the Friday 13th packaging.

When it comes to image, just about every conceivable style of illustration has been used to tempt the customer into making a purchase. Remarkable, isn't it, how few inlays present even a halfway-true representation of what the game offers? We've had sex (thank you Maria), violence (thank you Domark and a host of pale imitators), airbrushed fantasy (incorporating anatomical impossibilities that go beyond the reality of Maria), cartoons, paintings . . . the works.

The folks who actually sell computer games haven't got much that's new left to try — every ploy in the book has already been used many times over to beef up the product, attract the customer's attention and get the till jangling.

So what about the content of the games themselves? Programmers and designers must have explored every game-type dozens of times.

Unlike their arcade machine counterparts, designers and programmers working on home micros cannot add bells and whistles or extra memory boards at whim. Apart from teaching an old processor some new tricks, all they can do is re-combine tried and tested routines and approaches, add in extra features and cunning gameplay and hope for the best.

A very simple game can be immensely entertaining and addictive to play if it is dressed up well — take the recent Breakout revival. On the other hand, a complex game can be thoroughly absorbing if it casts you into a believable environment where you have to learn and perfect skills to succeed. Hunt for Red October, for instance, provides the player with the opportunity to enter a new world of experiences where skills have to be learnt in order to survive.

In the UK the entertainment software industry is now in the hands of a small number of large companies which have swallowed up almost every independent producer of games.

It takes a long time to design and program a thoroughly good game, and if all the extra possibilities offered by a 16-bit machine are to be incorporated and exploited in the game design, then the process becomes even longer. So far, in this country, software developers have been reluctant to make this investment, preferring to keep project deadlines short, the games sweet and the licences rolling in.

Sometimes you pay for the licence. From the software house's point of view, investing in a good licence is a dead cert — there is bound to be a return on that investment: automatically increased sales levels. Investing in time and large teams of programmers, designers and artists is less certain to produce a return, unless that large team is used as a pool into which licences may be cast and out of which passable games may be trawled.

A few solo programmers, like Steve Crow and members of the Graftgold team, invest serious quantities of time and effort into their product. A few teams of programmers — and Denton Designs spring to mind — invest similar levels of time and effort. The end result differs from the output of programming production lines quite significantly and, I would argue, is worth paying more for.

The software corporations and their teams of programmers in this country churn out an endless stream of passable product, opiates for the game-playing masses. Now and again a real turkey escapes and once in a while a gem appears. But we seem set for a diet of full-price games that are all much of a muchness. It is not surprising that the shelf-life of a full-price game rarely exceeds two months — the latest release retains a buzz only so long as it is recent. Once it has been mapped, POKED and played through it fades away, and given the programming budgets (for time and money) available there's a limit to the amount of gameplay you can cram in.

I wonder if premium price products will ever catch on with software houses and punters alike? The owners of the games production lines are understandably wary of allocating a large and expensive team to a single entertainment project for a year or two, but I reckon they would be pleasantly surprised at the result. I think I'd prefer to spend £20 on a game which was the product of a lot of programming time and effort, took a couple of months to crack and was worth returning to, rather than £20 on two 'games of the moment' that were fun for a while, but soon became consigned to the back of a cupboard.

Maybe there is something left for the games publishers to try after all. . .

GK

IconTroller

Andy Eskelson tries out an unusual control device

A.E.

It is not often that you find a product that has used the KISS rules of product design (Keep It Simple Stupid!) but the IconTroller does just that. It is not much to look at, in fact all it is, is a small joystick and fire button. A plastic moulding that has some double sided tape on it is the method of attachment to the main body of the keyboard, but though it is a very secure attachment, it can be removed if required.

IconTroller is designed to be used with the GEOS type operating systems, or any program that uses a joystick control system. It is not designed for gaming at all, it is nowhere near robust enough for that! In use it is very nice, a good smooth action and very convenient for all sorts of software, as it takes up no desk space to speak of, and very thoughtfully the joystick connector is extended to allow a normal joystick to be attached.

"The switches are very neat, not the unreliable wafter thin dome 'click' switches, but the whole switch system is moulded from a soft silicone rubber sheet, with conductive rubber pads that form the contacts of the switch"

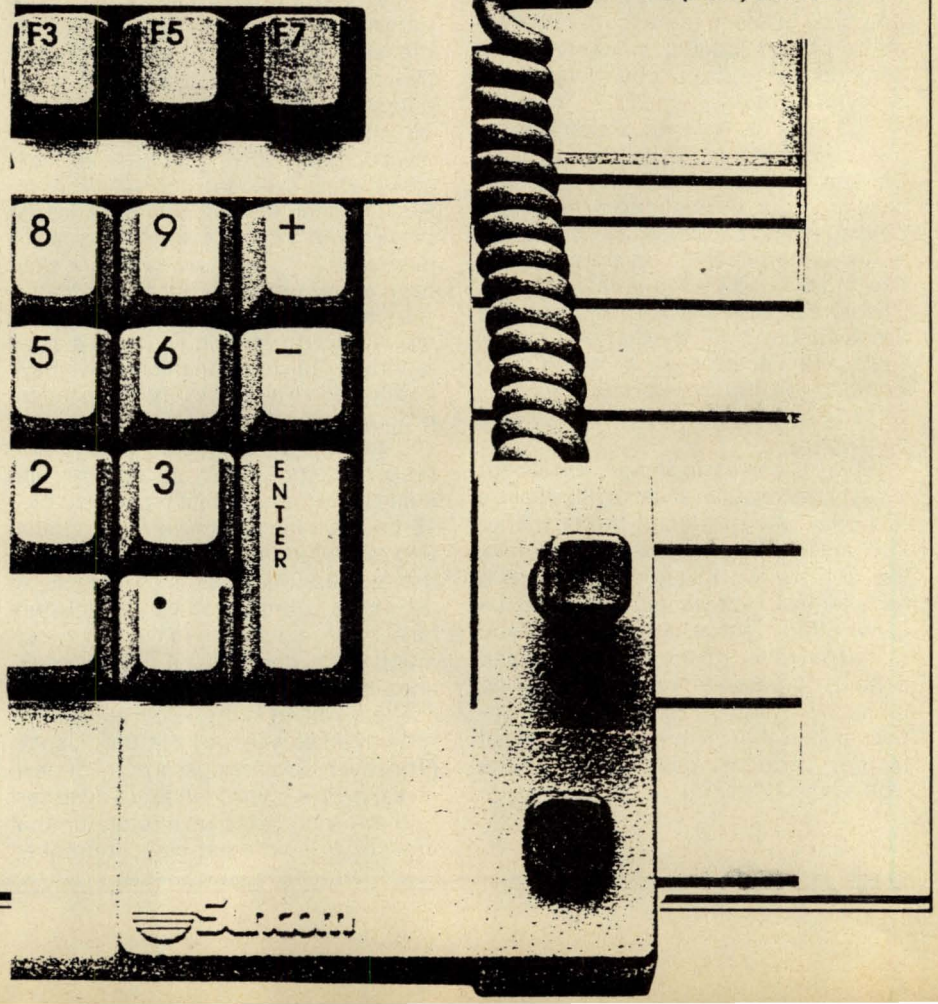
Internally it has been just as well designed. A well made PCB forms the connection point for the wires. Not a silly push-fit system. This PCB also has GOLD plated connection fingers for the switch contacts. The switches are very neat, not the unreliable wafter thin dome 'click' switches, but the whole switch system is moulded from a soft silicone rubber sheet, with conductive rubber pads that form the contacts of the switch. It is the same system that has been used on many computers and believe it or not the CBM PET had a similar rubber pad attached to each key. If that is anything to go by then the IconTroller should give many years of trouble free operation.

Unfortunately a couple of things have slightly spoiled what would have otherwise been an excellent product. The first is that the lead that connects to the joystick port is a bit stiff, and can pull the plug out after a time. The second is that the lead is joined to the plug at the side, so when plugged into the rear port it obscures the front port, if the lead had come out of the top or bottom of the plug then this problem would have been avoided. The last problem and the most annoying to me was that the IconTroller was designed for the 128 and the 64, but I have a 128D and this meant that the lead was far too short and the shape of the moulding did not suit the 128D's keyboard, so perhaps a new bottom moulding would solve that problem, but that is up to Suncom to sort out.

Overall this is a very nice product, and would be a helpful asset for most CBM users. I think that with just a little more work this could very easily win an Oskar for its design and usefulness.

£16.95 —

Contact:
Financial Systems Software.,
2nd Floor,
Anbrian House,
St. Marys Street,
Worcester. WR1 1HA
Tel (0905) 611463.



STACK COMPUTER PRODUCTS

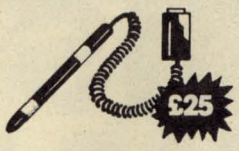
C64 C128 128D

SWITCHABLE 4 SLOT MOTHERBOARD

£25

- NEW UNIQUE SWITCHING SYSTEM
- USE COMPATIBLE CARTRIDGES TOGETHER
- MODEM VERSION AVAILABLE

C64 128 128D VIC20



£25

- DRAW *ACCURATELY*
- SOFTWARE + 10 GAMES
- TAPE & DISK
- PRINT PICTURES
- ARCHITECT & ELECTRONIC TEMPLATE

SCART LEADS

•C64 - SCART	5.75
•C64 - FERGUSON TX	3.95
•C64 - AMIGA MON.	5.75
•C64 - SONY TV/MON	5.75
•C64 - PHILIPS TV	5.75
•C64 - 1701	6.75
•128 - 40/80 COL MONO	9.95
•128 - AMIGA/1901	7.75

ALL CBM'S

DATASETTE

£24.95

- 100% CBM COMPATIBLE
- COUNTER
- RECORD LIGHT
- C16/+4 ADAPTOR £2 EXTRA

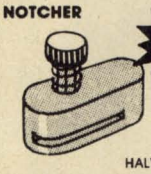
C64 C128 128D

NEOS MOUSE & CHEESE

- TAPE £24.95
- DISK £27.95

1540 1541 1550 1570

NOTCHER



£4.50

HALVE DISK COSTS

- Use both sides on single sided drives

HIGH QUALITY

3½"DISKS (10) IN PLASTIC CASES

Single sided £15.00

DOUBLE SIDED £16

Box for 3½" £9.00

100 CAPACITY £10.50

50 CAPACITY £9.50

5¼" - LOCKABLE DISK STORAGE BOXES WITH RIGID INDEX SEPARATORS

C64 128's IN 64 MODE

- EXPERT WITH ESM . . . £29.95
- FREEZE MACHINE . . £28.95

CBM 64 CASSETTE ALIGNMENT KIT

£5.95

INCLUDING CLEANER & DEMAGNETIZER

1540 1541 1550 1570 1571 128D

£10.50 A

£7.50 B

A ● 10 SUPER DISKS IN LIBRARY CASE DSQD

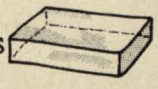
B ● 10 HIGH QUALITY DISKS IN LIBRARY CASE DSDD

HIGH QUALITY RIBBONS

● MPS801	3.54
● MPS802	3.93
● MPS803	3.92
● 1525	3.35
● 1526	3.93
● DPS1101	3.52
● MX/FX80	3.78

ALL OTHERS AVAILABLE

BS3120 SAFETY DUSTCOVERS



FROSTERED-BLACK TRIMMED ANTI-STATIC FIRE RETARDANT

64/20/16	1.75
Plus 4	2.75
128	3.50
128D	4.50
C2N/1530/1531	1.50
1541/1570	3.00
1571	3.00
MPS801	3.00
1701	4.00
AMIGA 500	4.00

C64128 +4 VIC20 C128D

£25

FULL S232 BI-DI INTERFACE

- TYPEWRITER
- PRINTER
- MODEM
- OTHER COMPUTER

- CONNECT ANY 64/128
- SEND/RECEIVE

64128 +4 C16 VIC20 128D

£44.95

- TYPEWRITER
- PRINTER
- PLOTTER

UNIVERSAL CENTRONICS INTERFACE

- FULL CBM COMP.
- FULL GRAPHICS ON DOT MATRIX PRINTERS
- USE 3+1 ON PLUS 4
- CHAINABLE WITH DISK

8K BUFFER VERSION £49.95

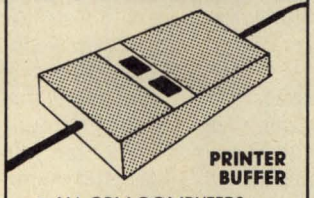
1520 PRINTER/PLOTTER

ROLLS £1.20 EACH

PACK OF 4 PENS BLACK, RED, BLUE, GREEN.

£5.95

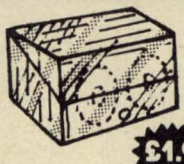
ALL CBM'S



PRINTER BUFFER

- ALL CBM COMPUTERS
- ALL CBM PRINTERS
- 64K BUFFER.....79.95
- 32K BUFFER.....65.95

ALL COMPUTERS



£1.99

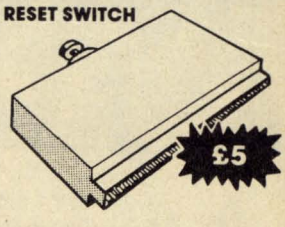
PACK OF FIVE C15 LEADERLESS HIGH QUALITY COMPUTER TAPES IN CLEAR LIBRARY CASE

CABLES

- DISK PRINTER.....£4.75
- TV LEAD.....£1.75
- USER PORT CENTRONICS.... £12.00
- AMIGA 500 PRINTER..... £12.00
- SERIAL SPLITTER....£7.25
- RS232 (2 metres) £9.00

64 128 128D V20

RESET SWITCH



£5

RESET & POKE USER PORT TYPE

AMIGA

£79.95

USE DPS1101 ON IBM, AMSTRAD ETC.

AMIGA TO CBM CENTRONICS/C64 INTERFACE INCLUDING 8K BUFFER CENTRONICS IN/CBM SERIAL OUT

AMIGA

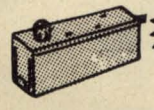
- AMIGA A500 + BASIC + MOUSE, DPAINT, WORKBENCH . £459.00
- A521 TV MODULATOR £24.95
- A501 RAM + CLOCK £110.00
- CUMANA 3½" DISK DRIVE £129.00
- STAR LC-10 PRINTER £199.99
- PHILLIPS 8833 HIRES COLOUR MON WITH STEREO SOUND £265.95
- SECURICOR ON ABOVE £5.00 EACH

C64 . 128

- **ARROW + £11**
  - HIGH SPEED CASSETTE
  - M/C MONITOR
  - ASSEMBLER/DISASSEMBLER
- **SUPER HELP £12**
  - 20 BASIC COMMANDS
  - ASSEMBLER/DISASSEMBLER
  - MONITOR & D.O.S. SUPPORT
- **BLITZ COMPILER £15**
  - RUNS BASIC MUCH FASTER
  - ACCEPTS EXTENSIONS
  - SIMPLE OPERATION

- DISK CLEANER.....£7.50
- COPY HOLDER.....£19.90
- MONITOR SWIVEL 12".....£15.50
- MONITOR SWIVEL 14".....£17.25
- SURGE PROTECTOR.....£22.00
- LO-LINE CASE.....£19.95
- 1525 PAPER (2000 SHEETS) £23.80
- C16/+4 CASSETTE ADAPTOR...£3.75
- +4 CASS TO C64 ADAPTOR £5.75
- C16/+4 JOYSTICK ADAPTOR..£3.75

VIC MODULATOR



£16.95

- 64 POWER SUPPLY.....£26.95
- C16 POWER SUPPLY.....£22.00
- +4 POWER SUPPLY.....£28.98
- 128 POWER SUPPLY.....£52.44

VIC 20

- 4 SLOT MOTHERBOARD SWITCHABLE £2.95
- 3/16K RAM PACK.....£34.95
- 3/16/32K RAM PACK.....£49.95

C16

- 16 RAM PACK £29.95

MINI OFFICE II

- GRAPHICS
- WORD PROCESSOR
- SPREAD SHEET
- DATA BASE
- COMMUNICATIONS
- LABEL PRINTER CBM 64/128
- CASS £16.75
- DISK £19.75

FREE CATALOGUE AVAILABLE ON REQUEST

PRICES INCLUDE VAT

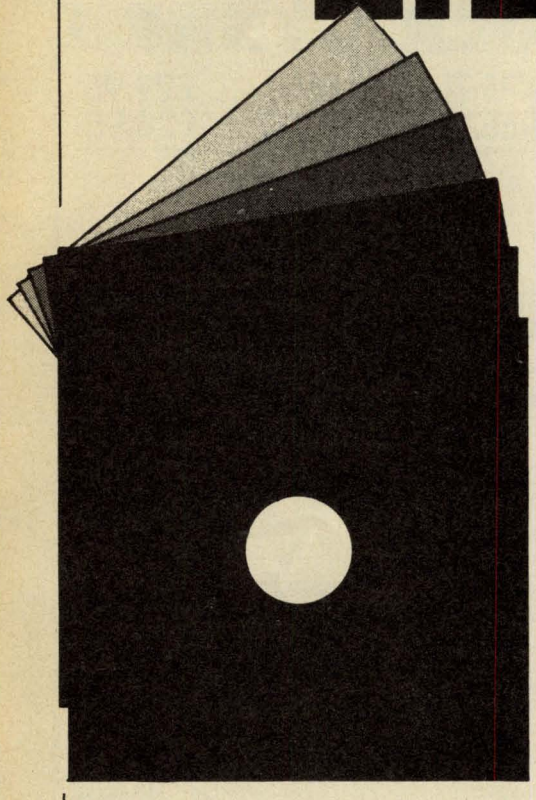
P&P 90p U.K. (FREE OVER £20)

OVERSEAS £3.00

MEEDMORE (Distribution) LIMITED
28 Farriers Way
Netherton
Merseyside L30 4XL
Tel: 051-521 2202

VISA

SUPER DISK LIBRARIAN



More and more software for the C128 is arriving from the States. Some of it is of a very high standard, utilizing fully the extensive power of Commodore's best 8 bit machine and its associated faster 1571 double sided drives.

This particular program Super Disk Librarian (S D L) is one such powerful utility. Running on the 128/1571 in *fast mode* and in 80 columns giving extremely fast response to information enquiries.

I have been searching for a suitable disk catalogue system for my ever increasing library of disks for a long long time now, there are quite a number to chose from but it seems to me that this is by far the best program I've come across. I have looked at many, but overall S D L has the most proficient system, the fastest response time and has a vast storage capacity as well.

1000 disks

Free Spirit Software Inc from Illionis U.S.A. have developed this amazingly fast and simple to use library catalogue. When I am 64 and losing my hair. I know that at least one piece of software will still be at my side, not outstripped by some other system, because I can access information from up to as many as 15,200 different program names off up to 1000 disks! Pretty impressive hey?

I know that from working in a busy office environment that we can collect several new files each week and that one day nearly all of them will have to be recalled to view once more or, as in the case of some, many many times. To keep track of every file becomes a real headache if your system is not large enough to cope with the number of program files kept.

Speed and ease of use, helped by a comprehensive operating manual, give you the control necessary to keep programs in order. The system outputs to a printer on which the information can be printed out in a variety of forms to suit the format and the manner you wish your files to appear. A full library, or selective reports only, or even just to print disk labels is a possibility.

The heart of the program, and one thing which helps it to be fast, is the way S D L catergorises disks and then sub divides them into smaller program by program records. The same way as your public library has different sections so does S D L. There are seven main category headings. 1.) Productivity. 2.) Telecommunication. 3.) Games. 4.) Utilities. 5.) Archives. 6.) Educational. 7.) C/PM.

Constant help

When using the program there is help in the form of a constant display showing what is going on and which selections are available. Prompts at all times when in use guide you through to simplify the adding of records. A data disk contains your library, this will show the last date when you added new records or updated it. Entering data is easy and all program files can be catelogued automatically or selective files only added. You can even change the names of files to suit how you want your list to read.

The great chore with cataloging information is always when you start from scratch but once entered the S D L works hard for you making all information retrieval beautifully simple. look for as many disks as you want and the records are instantaniously responded to. All disk names reside in computer memory i.e. without having to access the drives so they are found within seconds. To locate a program in amongst 2000 others take just 1.25 minutes (I'm glad to say that I haven't that many yet!). Each category can also be alpha-numerically sorted. To make a printout of the same makes for easy file recognition.

The only limitations of S D L is that each category has a top limit of 350 disks. If this becomes a problem you could always combine two headings to cover one category i.e. Productivity and Utility giving a combined total of 700 disks enough to keep anybody happy for years and years. Now that I'm all "ship shape" what to me was once a mess of disks, reliant upon my humble powers of memory for retrieving a particular program. I can put my beautiful 128 to real good use using it for what it is best at.

If you have a large and cumbersome set of files use S D L it will put you straight and get you organized.

B.C.

Price: £29.95

Contact:
Financial Systems Software.,
2nd Floor,
Anbrian House,
St. Marys Street,
Worcester. WR1 1HA
Tel (0905) 611463.

128 SPECIALIST $3^1/_2$" SOFTWARE SPECIALIST

1571/1541 Drive Alignment Package

1571/1541 Drive Alignment reports the alignment condition of the disk drive as you perform adjustments. On screen help is available while the program is running. Includes features for speed adjustment and stop adustment. Allows you to test each full and half track as you re-align the drive. Complete instruction manual on aligning both 1571 and 1541 drives. Even includes instructions on how to load the alignment program when nothing else will load !

Works on the 128, C64, SX64 in 128 mode or 64 mode. Price only 24.95

Basic 8

We are proud to introduce Basic 8 and Basic 8 with Basic Paint, the first C128 Software package specifically designed to unleash the hidden graphics power of your 128. Using a special wedge technique, Basic 8 achieves performance rivaling that of 16 bit microns ! Imagine your 128 producing a resolution of 640 x 200 in mono and 640 x 192 in 16 colours without any additional hardware !

Basic 8 adds over 50 Hi-Res graphic commands to Basic 7.0 and is completely compatable with it's advanced non-graphic commands. You work in true 3-Dimensional environment, controlling such parameters as perspective viewing angles and the origin & depth of the view, many many more features, available for only 34.95 Detailed information available on request.

1571 FIX ROM

Are you experiencing any of the following problems :-

- I/O Error 5 when using Superbase ?
- Device Not Present errors ?
- Major problems when 2 or more files open ?
- Slow writing to second side of disk ?
- Takes for ever to recognize a flippy disk ?

If you have one or more of these problems then you need 1571 FIX ROM, just plugs in. Only 24.95

Super 81 Utilities

Super 81 Utilities is a complete utilities package for the 1581 disk drive and C128 computer, Among the many Super 81 utilities features are :-
Copy whole disks from 1541 or 1571 format to 1581 partitions. Copy 1541 or 1571 files to 1581 disks. Copy 1581 files to 1571 disks. Backup 1581 disks or files with 1 or 2 1581's. Supplied on both $3^1/_2$" and $5^1/_4$" format. Perform many CP/M and MS-DOS utility functions. Performs numerous DOS functions such as rename a disk, rename a file, scratch or unscratch files, lock or unlock files, create auto-boot and much more !

Super 81 Utilities is a full featured disk utilities system for the 1581 and C128 for only 29.95.

128 Cannon

The latest high speed copier from the States. CANNON will copy between the 1541, 1571, 1570 and the new 1581. Inlcudes a nibbler, (faster than some parallel copiers I), Fast Disk Copier, File Copier, 1581 File Copier, MFM Copier to copy some IBM/CPM software, T/S Editor, Disc Error Scanner, Density Scanner and KRACKER JAX with over 100 parameters. Only 29.95

128 Helper

The 128 Helper is the first electronic reference manual for the 128. Let's say you are in the middle of writing a program in Basic when you realize that you need more information on a specific command, just touch the help key, almost instantly a menu appears with all Basic commands, select the command in question and a screen of detailed information appears, at the press of a key you return to your Basic program. The most exciting feature of the 128 Helper is the program is user definable. The program will guide you to create your own custom screen files. This program will only cost you 24.95

The Big Blue Reader CP/M

New from SOGWAP Software Inc., The Big Blue Reader allows you to transfer files generated on most IBM-Compatible (MS-DOS) software to all three modes of the Commodore 128 and vice-versa. Thus, files can be transferred to or from MS-DOS, GCR, (128 or 64) and CP/M disk formats. The Big Blue Reader requires a 1571 on both the Commodore 128 and 64. The Big Blue Reader is only 29.95.

New $3^1/_2$ Disk Drives

The new Commodore 1581 1 megabyte disk drive is now available. The NEW 1 $^1/_2$" disk drive is compatible with all Commodore computers from the 128 to the 64. This drive has been designed for serious and professional users, it offers 3,160 blocks free, 8,000 bytes per second (31 Blocks) loading rate. Software for this drive includes, CADPAK, CHARTPAK, Oxford Pascal, Hackpack, Petspeed, GEOS, etc. Using the CANNON or Super 81 Utilitities most software can simply be copied to the $3^1/_2$" disks. The drive is available for only 199.95

1351 Mouse

The 100% proportional, compatible Commodore Mouse, works with GEOS, 64/128, CADPAK and most drawing packages. Only 29.95

Software		
CAD PAK 128	Draw Circuitry, House Plans, Precision Drawings	29.95
Chart Pack 128	Produce Pie, Bar and Line Graphs, Load Save Data	34.95
Hackpack 128	Program Compressor, RAM-DISK and Toolkit	19.95
Super C	Full C Compiler, with Editor and Module Linker	39.95
Xref 128	Cross Reference Variables, Line Numbers Cmds	12.95
Pascal 128	Full Pascal Compiler by Oxford Systems Software	19.95
Cobol 128	Includes Syntax Checker, Editor and Compiler	29.95
Disk Librarian	Catalogue up to 1,000 disks, Print Dir Lists, etc	29.95
The Great War	Full World War 1, Hi-Res, Strategy Game	14.95
Hardware		
C128 & C2N		229.95
C128D Desktop		399.95
1571 Disk Drive		189.95
1901 Colour Monitor		249.95
Books		
The Anatomy of the 1571 Disk Drive		9.95
C128 CP/M Users Guide		12.95
The Anatomy of the Commodore 128		9.95
Tricks and Tips for the 128		9.95
BASIC 7 Internals		16.95
C128 Peeks and Pokes		10.95
BASIC Training Guide 128		10.95

Financial Systems Software Ltd.,

2nd Floor, Anbrian House,
St. Mary's Street,
Worcester, WR1 1HA

Telephone (0905) 611463

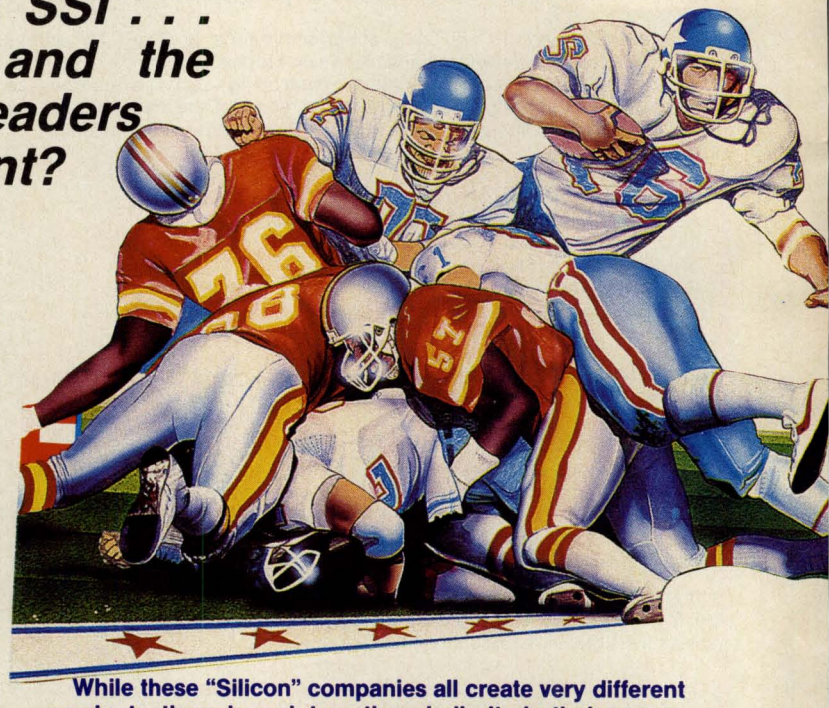
All prices include VAT and P. & P.
Foreign Orders add
2.50 per package

FINANCIAL SYSTEMS SOFTWARE LTD

Part 1

In America
Land of Silicon Dreams

Accolade . . . Electronic Arts . . . Epyx . . . Broderbund . . . SSI . . . What makes California and the companies there world leaders in electronic entertainment? CCI went there to find out.



Silicon Valley, it is said, is less a geographical area than a state of mind. The global technological influence and power it exerts seem to reflect a typically Californian, laid-back attitude of casual contempt for convention allied to an urgent quest for novelty . . The industry there appears drawn forward by a dream of the clean lines of some futuristic metal and plastic world. The companies and the people who work in them give the impression of an obsessive committment to increasing quality that rises to an ambition to reach for perfection —purer waters of silicon . . limitless power for processors, and for home entertainment, ever more complex and complete representations of an electronically enhanced reality —gameplay that tries in E.A. President Trip Hawkins' phrase, to put "Reality in a box". And to deliver that "boxed reality" right to your home screens.

The European visiting the "Silicon" areas of California —stepping on the home ground of world-renowned companies like Accolade, Electronic Arts, Epyx, Broderbund and SSII — all of whom are located within half an hour drive of each other and of San Francisco — is struck by the realisation that these are the clear leaders in the mass home computer markets of the whole world. What has given them that global leadership? It most probably is simply their untiring creativity and their equally untiring will to exploit it to its limits.

For the rest us of us, the gameplayers, the software users scattered across the continents, the state-of-the-art in *our* world of silicon dreams is the state of *their* art, created by these brilliant companies in this small area of the west coast of the U.S.A. And where these Californian technological wizards carve out a magic path, others, mostly less competently, will copy and attempt to follow.

EPYX®

While these "Silicon" companies all create very different products, there is an interesting similarity in their organizations. They all have a recognisable "Californian" style. All are based on some form of attractive industrial estate. Their buildings all have uncluttered, contemporary, low-level architecture with large areas of window-glass tinted against the sharp sunlight. All the buildings have a bright new look as if they could have been constructed last week.

Inside these quite elegant, probably prefabricated structures, there are mostly rather anonymous open-plan offices divided into individual cubicles that gives them the purposeful atmosphere of a bee-hive designed for concentrated work.

The people who work in them are more businesslike and ordered than their European counterparts. There is no attempt to impress with punk or trendy doublebreasted style or shaggy hair and designer stubble. Here, they wear ties and white short sleeved, well pressed shirts. They look — and mostly behave — like college graduates who have careers to make and ambitions to fulfil.

They are polite, relaxed, enthusiastic and articulate.

If they are not necessarily older than would be expected in Europe — middle to late twenties for the creative staff, thirties to forties for those who run the companies, they certainly appear more mature. There are more women in senior positions than Europe but even on the West Coast the computer business is still largely dominated by men.

They seem, however, to possess one characteristic that is fundamental to the way they carry out their business and shared by them all. It is less frequently noticeable in equivalent companies in Europe — if there are equivalent companies to these market leaders . . . That common characteristic is confidence. They do not, as many European, particularly U.K. companies do, pour out products and hope that the computer punters will make one or two of them hits. They do not, as one American executive put it, "Throw crap at the wall and see what sticks."

They seem fully confident that it is their own actions not those of distributors or magazine reviewers or others outside their companies that will convince the computer game buyers to vote with their wallets. It is the names and reputations they build that will sell their products. E.A.'s Deluxe series, Epyx "Games", Accolade's Hardball, SSI's succession of outstanding wargame hits, Broderbund's Loderunner — all products that have become classics, setting styles and standards for imitators to aim for and rarely reach. These are the quality products that have created "brand awareness" among the vast, profitable U.S. market that benefits their creators every time someone walks into a software department or store.

continued on page 29

Westin Bonaventure Hotel
Location of the L.A. AMIEXPO.

AMIGA GOES WEST

Following up its success in New York last October, the Amiga headed west to Los Angeles for another AmiExpo. Held in the rocket-style luxury hotel, Westin Bonaventure downtown in the city of the angels, the second Amiga Show drew the same kind of enthusiastic crowds as 3000 miles away on the East coast. There were also over seventy-five exhibiting companies, not all of whom had been at the previous AmiExpo.

There were some mumblings from exhibitors that Commodore was not supporting the Show because it had no stand there. However when the crowds began to pour in, despite the January storms that Los Angeles was suffering, the murmurs of discontent soon died away.

As at New York, Jay Miner, "The Father of the Amiga", who ran the team that created the computer before Commodore took it over, opened the proceedings with a speech that outlined how the miracle had been performed. Jay arouses a great deal of affection in Amiga owners and he finished to a standing ovation.

The second day's speech was given by the Managing Editor of CCI and our sister magazine Amiga User International, who gave the American audience some information on the European Dimension of the Amiga. Gail Wellington, once a leading Commodore staffer in the U.K. and now CBM's worldwide General Manager for Software development and a collegue from Europe answered questions. On the third day Richard McIntyre, CBM's Senior VP of Sales and Marketing gave the keynote speech. While the speeches, and especially the questions were very popular, most people had come to see what there was on offer to be used on the Amiga. They were given some tasty treats.

Video Toaster

The star of the show was the video applications area. Some stunning demos kept permanant crowds around several stands transfixed. Newtek had an extraordinary hardware/software device called Video Toaster that allows the Amiga to carry TV effects that are of broadcast quality and that would cost hundreds of pounds per hour if they were done professionally. The rumoured price for the Video Toaster is $799.00 and the release date is expected to be late Spring. At this price, Newtek can expect a rush from professional video production companies and also from keen amateurs.

Another visual treat was provided by Byte by Byte's Sculpt Animator. The demos of this on a big screen TV featuring heads expanding and shrinking, birds animated to flap their wings and disembodied legs marching over squares were truly amazing — so too is the price which is thought to be well under £100.

Interactive Softworks' Calligrapher was much admired (reviewed in March CCI) as was Aegis' Videomaster which also had some eyecatching demos. A new top-end wordprocessor, Excellence, was announced and demonstrated by Micro-systems, the creators of the successful Scribble, and Professional Page, a DTP package that will also allow the creation of colour separations for printing was much in demand.

New Horizons were showing an upgrade for their popular ProWrite, a W/P package that lets you use colour and also had their Flow, which many people thought has never had the recognition it deserves.

OXXI showed an interesting forecasting package that lets you tap into broadcasts from weather satellites. They also had their popular Maxiplan spreadsheet — an Amiga Oskar winner.

Arkanoid — The Hit

On the games side, Accolade were there with the previously released Hardball and other well-known products. The recently formed Constallation had a number of games already successful in Europe and Anco's U.S. representative had a number of products including the the admired — not entirely for technical reasons, Strip Poker. There was a new release, Viper, from the Canadian Top-down company but the hit of the Show was the Coin-op conversion, outstanding on the Amiga, Arkanoid. Discovery who carried out the conversion of the Taito game were overwhelmed with interest and admiration for the fact that it is so like the original.

continued on next page

AMIGA GOES WEST
continued

Brown Wagh, who have quickly climbed to become the largest publisher of Amiga business software had some brand new products The Works — an integrated program that we hear is to be bundled with the Amiga 500 in the U.K., Publishing Plus, TV Show and the very well-received Write and File.

Some high-tech Amiga products were presented at the Show including a 68030 board that turns the Amiga into a Mini computer level machine and also an 8 megabyte fast RAM board for the 1000 and 2000 computers.

R. J. Mical who created the Intuition software interface for the Amiga is now connected with the A-Squared company that presented a real-time video frame-grabber but perhaps the greatest fun product was another "interactive real-time video" product called Mandala from Very Vivid. Facing a video camera, you move your hands about according to whatever you see on the Amiga's screen. Your hands then appear to bang, say, drums pictured there and the drumbeats come thumping out — without you ever touching anything. It is an extraordiary effect that can be used in many ways such as education and certainly created a sensation.

There were several American Amiga magazines present but Amiga User International — was the only publication from Europe. The magazine was clearly to the American taste as they clamoured for every copy available — even Commodore's new Chief Executive Max E. Toy bought one.

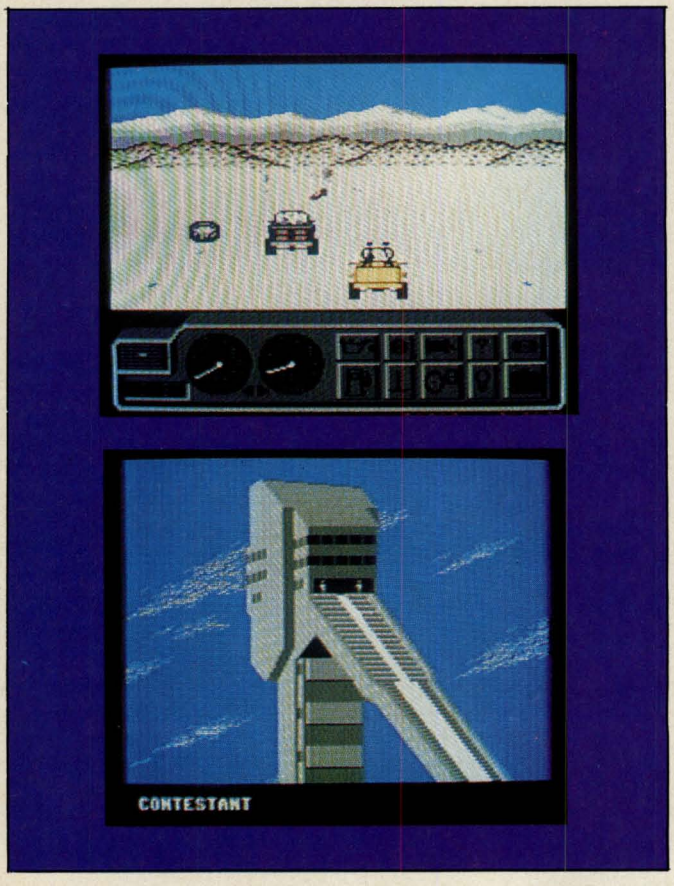
The Next Stage

In the two years that the Amiga has existed on sale in the U.S., it has had its ups and downs. At first as the 1000, it was received with enthusiasm. But, as Jay Miner pointed out, Commodore failed to support it sufficiently and it did not really break through into the big markets. Then, when the news of the 500 and 2000 came, the sales of the 1000 stopped completely but Commodore at that time was not able to supply the new machines. When the 500 finally got to the U.S., late in 1987, CBM just could not supply all the orders that had piled up. Now they seem to have got themselves sorted out and appear to be able to put the Amiga in high gear. The AmiExpo in Los Angeles was certainly an excellent launching pad for the next stage in the Amiga Saga.

EPYX

Epyx are . . . well, they are Epyx — inimitable quality of games, producers of worldwide successful series, leading-edge proponents of the multipart computer entertainment — and that seemingly unalloyed praise is probably an understatement, for Epyx are the model Silicon Valley dream creator.

Summer Games, Winter Games, World Games, California Games, Super Cycle, Championship Wrestling, Pitstop, Street Sports Baseball and Basketball (with Soccer soon to come), Temple of Apshai Trilogy . . . the list of hits is long and if not endless is unquestionably superb. Their games have already become legendary in the short but eventful history of computer entertainment.



Epyx is today presided over by a top management trio — David Morse, once VP of Tonka Toys and the man who ran the original Amiga company before CBM took it over, heads the Epyx company. He is supported by Gil Freeman and John Brazier — both experienced managers with successful track records in a wide variety of business activities.

None of these men is a games designer but they know how to nurture the talent needed to create quality products and give it the room to come up with a stream of exciting entertainment packages.

Located in a shiny glass fronted building on a stylish industrial estate outside Redwood City near San Francisco, Epyx continues to pour out an extraordinary flow of hit games that make it, with Electronic Arts and Accolade the most prolific producers of quality entertainment software in the world.

The company's annual turnover exceeds $30 million and every product it releases seems to set new standards and provoke a shoal of imitators trying to equal the Epyx excellence.

We spent time with David Morse and his team. They are quiet unassuming people. They make no boasts but allow their products to speak for them. But they do not give the impression of being willing to rest on past laurels. They are already moving into other areas of electronic entertainment and have hired R.J.Mical and Dave Needle, two of those most responsible for creating the original Amiga software development, to work on projects, still secret, that may set the world of computer entertainment off in a whole new direction.

In addition to selling their own long catalogue of hits, Epyx are marketing the U.K. produced Konix joystick throughout the U.S.A. They are also closely linked with the U.K.'s most successful software organization, U.S. Gold. Epyx are now responsible for selling the Birmingham based company's games in the U.S. — a reciprocal arrangement for the same service carried out by U.S. Gold for the Epyx product list in Europe.

Epyx on its own — as its many top titles show — is exceptionally strong but when with U.S. Gold two such major forces in world home computer software come together, they are a formidable combination, capable, as U.S. Gold might say of 'outrunning' the opposition.

In America
Land of Silicon Dreams

continued

It is not that they are arrogantly sure of themselves but that they believe the quality which they pour into their products will be recognised and appreciated — and it is. They think that if they spend enough time and money in creating software that maintains their reputations then the product *will* get valuable shelf space; it *will* catch the eye and the interest of the prospective purchaser and it *will* satisfy the player with many, many hours of stimulating entertainment which will make him come back for more again and again. And this is good business . . .

This confident and farsighted view is not exclusive to those previously named companies. It is not even exclusively Californian — Microprose is another American organization which built itself up by just such a strategy of quality. However, it is certainly a key factor in the success of many major Silicon Valley companies both inside and outside the entertainment field.

"There is on the West Coast a wide pool of experienced, expert high-tech talent. There is substantial competition for this talent so its rewards and the cost to its employers are high."

Maybe the most influential factors in their ability to lead in this business is the people they employ. There is on the West Coast a wide pool of experienced, expert high-tech talent. There is substantial competition for this talent so its rewards and the cost to its employers are high. Those costs put an even greater pressure on companies to succeed and in return for the high rewards they demand — and get — tremendous dedication as well as ability.

Jay Miner, "The Father of the Amiga", has pointed out that Commodore closed down its Amiga development division in Los Gatos in California because it thought it could do the same job on the Amiga 500 and 2000, for half the costs , back East in West Chester, Pennsylvania. Miner has also commented that after Los Gatos closed the 500 and the 2000 were a year late...

The Californian entertainment software companies give their talented staff one advantage that is rarely granted to Europeans in the same work — time. There is almost never a product that emerges from these highly expert and creative American companies that has taken less than one year to develop. E.A.'s Star Flight on the IBM took *four years* to complete! Four years . . . The MD of a UK games company who was visiting California at the same time as CCI admitted ruefully that most games did not get more than four months from his team.

It is not surprising therefore that the products that are put together by talented people with time to develop their creativity and inject quality last longer, both in the affections of the user and in the top sellers list — which appears to have less influence than in Europe. This timespan far exceeds the six-week life generally given to European and especially U.K. entertainment products.

It is ironic that in computer software, probably the closest to the leading edge of technology to which the consumer society comes, it is the fast-moving U.S., often accused of creating a society of built-in obsolence and the "don't-repair-buy-a-new-one" syndrome that is concerned with quality and longer-lasting value and Europe, historically slower and more concerned with durability, that now goes for the cheap and nasty, grab-a-quick-profit tactic.

continued on page 32

"We know what boys like..." in America

The majority of boys between the ages of 12 and 18 are "couch potatoes" and would rather watch TV than play sports, according to a nationwide survey of 1000 teenage boys carried out by Epyx to get hard information to enable them to tailor their products to their market.

The survey, revealed that watching TV is the most popular way for teenage boys to relax — 35 percent rank it as their favourite pastime. Playing sports ranked second at 18 percent, with using computers a close third at 13 percent. Listening to music, after school clubs and going to the mall accounted for 25 percent and 9 percent indicated other activities.

Jobs, Allowances and Buying Power

The Epyx Male Teen Survey was developed to determine earning power, spending habits and leisure time activities for this age group. The survey shows that when it comes to money, teenage boys are a hardworking bunch. More than three quarters of the respondents (77 percent) work for their spending money.

The majority (79 percent) receive a weekly allowance from parents; however 33 percent receive less than $5.00 per week. Sixty-six percent get less than $15.00 per week. Only 10 percent receive more than $15.00 per week. Twenty-one percent indicated that they receive no weekly allowance at all.

Buying Power

As expected, the majority (66 percent) indicated that they spent money on record albums, tapes and compact disks. Forty-two percent spent money toward movies and video rentals while 36 percent make clothing purchases. 75 percent of the teenagers said that they spent their money on computer software. Other purchases include food (48 percent) and sports equipment which scored low with only 25 percent of respondents spending their money on these items.

Computer Time

What are computer users doing? Homework. When asked to select the most popular uses for computer time, more than three quarters of the respondents (76 percent) said they did school work, while 56 percent said they used their computers to do programming. Forty-three percent said they wrote letters and the majority (87 percent) play computer games.

Of the 75 percent who spend money on computer software, nearly one third (27 percent) log in more than two hours of computer time per day with 43 percent spending at least one hour per day using their computers. The remaining 30 percent spend anywhere between 15 minutes to an hour per day on their computers.

COMMODORE

Don't miss out!

NOW INCORPORATING COMMODORE & AMIGA HORIZONS UK

With the growing popularity of Commodore Computing International Magazine, newsagents and bookstalls sell out quickly. More and more frustrated readers wanting the one magazine every Commodore owner needs are finding they are missing out and some months having to do without the latest news, reviews and vital feature articles and programs.

The popular solution is to place an order for your Commodore Computing International Magazine with your newsagent or by direct subscription to us.

A subscription means you get the magazine delivered to your door. It saves you time and makes sure you don't lose out on what's happening in the Commodore world.

Send in the subscription coupon below and get the best Commodore magazine the easy way — through your letterbox. Don't miss out on the best, mail the coupon **now**.

(If you don't want to cut up the magazine, we're happy to have a photocopy of the coupon or a request on plain paper.)

Commodore — Subscription Order Form

To Subscriptions Manager, Commodore Computing International, 40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC

Please send me 12 issues of *Commodore Computing International*

☐ Cheque enclosed ☐ Please debit my Access

Card No. | | | | | | | | | | | | | | | | |

☐ Subscription rate U.K. £16.50
☐ Europe £26.50
☐ Outside Europe £39.50

Expiry date: _____

Cheques should be made payable to: CROFTWARD LIMITED

Name _____

Address _____

_____

County _____ Post Code _____

Telephone (home) _____ (business) _____

Signed _____ Date (Subscription to commence) _____

COMMODORE PLUS-4/C16 FANTASTIC OFFER!!!

This month only we have an unbeatable offer! Providing your order arrives before the last day of the month displayed on the front of this magazine you can take advantage of the following great offers.
(1) ONE POUND OFF any cassettes you order.
(2) THREE POUNDS OFF any disc you order.
— This offer only lasts for this month! —

NEW! — WAND 2 — NEW! TAPE TO DISC

Following the great popularity of The Wand we have now extensively updated The Wand to The WAND 2. We bought every game we could find and completely rewrote the Wand to provide the finest tape to disc backup on the market. This program effortlessly converts hundreds of games from tape to disc. If you have a disc drive and a C16/Plus 4 then yo need a WAND 2. Supplied on disc. Excellent value **£12.95.**

BANGS AND CRASHES!! — RHYTHM BOX

This Rhythm/Drum box will set your feet tapping! At a very modest cost you can sequence a wide variety of digitally recorded percussion sounds. Very easy to use. No knowledge of music is required. In seconds you can set up pulsating rhythms and accompany your music. A variety of drums, tom toms, cymbals and a bass guitar combine to produce sounds you never thought possible on your C16/Plus 4. Easy entry of of rhythm and a powerful pattern editor. An excellent package — good value at **£7.95 cassette, £9.95 disc.**

WISP — AMAZING PRODUCT!

WIPS offers you a refreshing new way to operate your PLUS 4. WISP stands for Windows Icons Silicon-disc Package. It is packed with many powerful features. Everything in your new operating environment is run through windows — just like on very expensive computers. Built in window facilities include (a) calculator, (b) silicon disc, (c) note pad, (d) directories, (e) fast load and save, (f) error trapping, (g) programming window. Windows may be closed and neatly stored as icons. A smooth sprite is used to select the windows you wish to use from the pull down menus. With the silicon disc you can instantly save, load and directory — all in under half a second (much faster than even a disc drive!). The fast load and save to cassette is about ten times normal speed! We have never before sold such a feature packed program to give you power to control your computer to its limits. The ultimate programming environment. Incredible value. Plus 4 only. **Cassette £9.95, Disc £14.95.**

NEW — BLACK CAT 2

We have Black Cat 2 in stock and waiting to be dispatched to you! Have you ever wanted to use your PLUS 4 Wordprocessor, Spreadsheet, Business Graphics etc. with a cassette unit? This program allows you to save your files to cassette rather than disc (as forced to by Commodore). Version 2 incorporates a FAST load and save system so you can save your files to cassette at disc speed! Quick, convenient, easy to use. **Only £7.95.**

THE MIRROR — TAPE BACK-UP

Super tape to tape back-up copier catering for many PLUS 4/C16 games. Backs up both standard and FAST loading software. Very popular utility. Excellent value. **£7.95.**

PHOTON LOAD — FAST LOAD AND SAVE

Have you ever wasted time waiting for your programs to load or save? PHOTON LOAD, the new cassette operating system loads in seconds and allows you to load and save your programs at about TEN times the speed of a normal load or save. Why spend money on a disc drive when you can load and save this fast. **Great value £7.95.**

SUPER SPRITE

This extremely clever utility allows you to use 8 sprites simulatneously over a low-resolution screen. With this program you can now imitate the sprites found on the Commodore 64! A complete package with FREE demo programs and a FREE sprite designer. What more do you need to bring real power to your games on your C16/PLUS 4. A must for games programmers. Excellent value. **Cassette £7.95, Disc £9.95.**

ELECTRIK PENCIL!!!

A truly excellent high resolution art program. Magnificent masterpieces can be quickly drawn using the powerful facilities provided by this package. Impressive results in no time at all. **Cassette only £7.95, Disc only £9.95.**

MERLIN ASSEMBLER

100% machine code assembler for the PLUS 4/C16. Very fast assembly of source code. Easy entry/editing of code via the full screen editor. Full load/save and printer facilities. Variable names, labels, hex/decimal, text and data statements, remarks, post indexing of variables etc. Many other facilities too numerous to mention. Highly recommended. A truly superb assembler. Comes with instruction booklet and working examples of machine code routines. READ THE EXCELLENT REVIEW IN YOUR COMMODORE. **Cassette £8.95, Disc £13.95.**

TAPE HEAD ALIGNMENT C16/PLUS 4

The perfect cure for the majority of loading problems. Specification as for the Commodore 64 (see below). **Only £6.95.**

COMMODORE 64 Ever Had a Loading Problem?

Then send off for WIZARD's "TAPE HEAD ALIGNMENT KIT 64". The most common cause of loading failure is bad alignment of your tape heads. This kit allows you to set up the tape heads of your cassette unit for the BEST possible loading conditions. In many cases this will make a remarkable difference in loading reliability. The complete feature packed kit. **£6.95.**

NEW! — AMIGA — NEW! NEW! — BEGINNERS GUIDE TO AMIGADOS —NEW!

This is a clear and well thought out guide to using AMIGADOS. This is the easy way to learn about the power of AMIGADOS. It takes you by simple steps, with many examples through the AMIGADOS commands. It shows you how to set up a simple boot disc (with your own customised messages) that will boot in seconds (much much faster than workbench). It will show you how to make your Amiga independent of the workbench disc — no more "Please insert Workbench disc". It shows you how to include your own pictures (from DPaint) and much much more. This package comes with a guidebook and a FREE example disc. The disc includes a password system which will prevent unwanted users from using their Amiga! **Guidebook and Disc £9.95** (the special offer does NOT apply to this package).

RAPID DISPATCH OF ORDERS

Send an S.A.E. for our current catalogue with full descriptions.

U.K. p&p FREE and by FIRST CLASS POST.

Europeans please ADD 50p.

Outside Europe ADD £1.50 for AIR MAIL.

Overseas orders welcome. All payments must be in pounds sterling.

Cheques/PO to:

WIZARD SOFTWARE (Dept JRK)

20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR

WIZARD SOFTWARE ***20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR***

MUSIC GRADE EXAM TIME?

You need trained ears for music exams - Perfect Fourth AURAL trains ears.

In every music grade examination, a section is devoted to ear testing which is called an aural test. Although the actual marks allotted for this test amount to just under a fifth of the total marks available, lack of practise in this section can profoundly effect the whole examination result.

You will no doubt remember the nervousness that you felt during your school (or even professional) exams, if you knew that you were weak in a particular subject, or perhaps even just an area of a subject.

So it is with music examinations. But with one major difference. *Aural tests are the only part of the grade exams where the student can not practice alone.* A skilled pianist is essential. Without this help, you will be entering the exams with a gap in preparation with the result that confidence is sapped. And nervousness can adversely affect the whole performance.

The result? A missed distinction or merit, but even worse..... overall failure.

And this tragic state of affairs is *not the fault of the student.* If no pianist is available to help, then you can't practise aural, having to rely on snatched moments from the weekly music lesson.

You will surely agree with music teachers that this is a totally unsatisfactory state of affairs. Daily practise is the only certain answer.

Recognising this urgent need, a practising music teacher set about solving the problem. After four years work and in consultation with the examining boards, Perfect Fourth AURAL was created. Today you can practice aural daily in your own home, totally without help.

Perfect Fourth AURAL is a remarkable computer program designed to be used on popular home micros, *needing absolutely no computer or piano skills at all.* If you can play a game - you can use aural.

Not only is AURAL intelligent - it will randomly select one of over 250 different tests available on each program - it will even show you how to conduct with cleverly synchronised graphics. This program is field-tested and has already helped students to play with much more confidence and greatly improved results.

This is what top teachers and performers say about Perfect Fourth AURAL.

GRAHAM LYONS, Performer, composer, teacher and author of the highly successful tutor, Take Up The Clarinet. *"It's fun. I wish this package had been available years ago."*

JANE PICKLES, Principal flautist BBC Concert Orchestra *"the answer to many a harrassed instrumental teachers prayer..."*

DAVID FARNON MA(Cantab) ARCM, Composer, Conductor, Performer and Teacher. *"...an excellent approach to aural training."*

Available now for Commodore 64/128
Prices include VAT and U.K. delivery.

Grades 1 and 2 on one tape	**£16.65**
Grades 1 and 2 on one disk	**£18.45**
Grades 3, 4 and 5 separately	
each tape	**£14.85**
each disk 5¼"	**£16.65**

Overseas orders - Sterling only - add £3.00 Airmail

Cheques/P/Os payable to:-
Peter Moore,
Perfect Fourth Software,
FREEPOST MK1008,
Buckingham MK18 7YY.
Tel: (0280) 813703.
Telex: 937400 ONECOM G 16023001
(No stamp required)

"The talent is not less in Europe, nor is the software buying public's and welcome appreciation for quality products."

This is certainly a pity for the talent is not less in Europe, nor is the software buying public's welcome and appreciation for quality products. For when those American companies' efforts arrive in Europe, they are invariably successful. It is the confidence to invest substantial resources into longer-term development of high class software that will not give an immediate return that seems to be lacking. Though there are now signs in the games field that the realisation is beginning to sink in that with budget games taking huge bites out of the market, the full-price games must provide greater value if they are to persuade the buyer to spend the big difference in price. All the Californian companies we visited have apparently never thought any other way and, as a result, their products go on selling and selling both in the U.S. and in Europe.

It may be that the wide open spaces of the West are what lead to a more positive attitude to all things than the more confined and crowded countries of Europe. And perhaps the slower and possibly less nervous distribution system of the U.S. gives greater time for good products to get up a head of steam and keep their momentum for a longer period than the overnight delivery success or failure and replacement by the next game that European companies endure. It might even be that management in those leader companies is more professional and experienced and the available finance more substantial, coming from venture investment instead of banks, than in Europe. It could be that the U.S., more particularly California and especially Silicon Valley is simply young enough to have unbounded confidence in its ability to get it all together at the right time in the right way and find the world will be willing to welcome its products with the rewards they fully deserve.

Of course, they may not be right about that but at least by starting off with that very positive attitude they have the vital confidence to invest the cash and the people and the time that might just make such a view a self-fulfilling prophecy.

Electronic Arts has spent nearly 18 months getting as near total fidelity to a real racing car simulation with its Ferrari and almost as long creating two new Deluxe products expressly for the Amiga which will sell for a profitable $200 each. Accolade, in spite of all the American football games already out, went ahead and over a substantial time created perhaps the best yet — 4th & Inches. SSI is *still* selling some its games which it first brought five years ago! And it is now devoting about 50% of its resources to its "Dungeons and Dragons" project that it sees as lasting five or even ten years. Epyx is now employing the probably highly expensive R.J. Mical and Dave Needle, two of the top software engineers in the computer world, who created the Amiga's user interface to develop for Epyx "super products".

It is not idealism that makes these "Silicon" companies perform in this way. They are in the industry to make money. They are managed by sober-suited business-men who might well be in automobiles, pharmaceuticals or office equipment. But they employ MBA's as well as computer science graduates. And the way they carry out their business is giving the whole world of entertainment software a strong lead toward higher value and higher quality — and more customer satisfaction and loyalty.

Many more of the *products* that come out of the Silicon Valley companies will be imitated then the *style* in which they have been created. If Silicon Valley really is more a state of mind than a geographical place, then it is a state of mind that many outside this Californian hothouse of technological marvels would probably find very much more profitable to imitate than just its products.

EPYX — The Hit List — Coming Shortly

The Games — Winter Edition

Epyx is an official licensee of the 1988 U.S. Olympic Team, is buying all THE GAMES — WINTER EDITION, a new title in their highly successful GAMES series. The setting for THE GAMES — WINTER EDITION is the Rocky Mountains above Calgary, Canada and packaging will sport U.S. Olympic Committee Olympic designations.

"Athletes" compete in seven of this year's events including Oval-track Speed Skating, Downhill Skiing, Slalom, Luge, Ski Jump, Figure Skating and Cross-Country Skiing. To present the most realistic simulation possible, these events are being designed with the assistance of U.S. Olympic Team affiliates and video tapes provided by the U.S. Olympic Committee.

THE GAMES — WINTER EDITION will feature camera-angle points of view which give the feel of television coverage. In the Downhill Skiing event, players will even be albe to set up their own cameras and monitor their performance by cutting from view to view. There is a multi-player option for up to eight players.

California Games VCR Style

Riding the wave of its highly successful computer game predecessor, Epyx is bringing out a video version. "VCR California Games" capitalizes on the flashy sports and style of the West Coast.

Players compete in a race from San Francisco to San Diego. Suddenly their car breaks down, but they have no money. They become an ace surfing pro and pull some major wave moves to make enough money to get back in the race.

Shred the face of a totally tubular wave, turn the burn on a BMX bike and spray up a wall of dirt: they'll do whatever it takes to get back on the road and enjoy scenes of California's most popular banzai events. Beach action including surfing, bodyboarding, BMX biking, skateboarding, sailboarding and roller-skating are featured on the tape — more than 200 events in all.

A New Generation of VCR Games

Coming Shortly ..... Epyx has also unveiled "VCR Golf" and "Play Action VCR Football", two new strategy VCR games.

"We are introducing a whole new generation of VCR games," said Robert Botch, vice president of marketing and product development for the Company's new Consumer Electronics Division. "These new games put the players in control, something that other VCR games have been unable to do."

"Play Action VCR Football" combines strategy with highlights from actual NFL plays. Players act as coaches with access to more than 200 different exciting video plays. In this two-player, head-to-head competition, players choose from 12 defensive options and 20 offensive plays, from a strong side screen to a quarterback draw. When their play calls dictate a big play, players turn to the videotape featuring action-packed highlights of more than 200 NFL plays. Players are in complete control of the game's destiny, from strategy to the length and pace of the contest.

"Play Action VCR Football" includes an NFL highlight video cassette, offensive and defensive play cards and game board. The game will be available for home VHS machines.

'Audio' Games

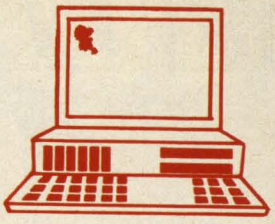
Coming Shortly ..... Epyx has also added what it claims as a new dimension to ordinary sports board games with "Head-On Football" and "Head-On Baseball", games that combine the strategy of calling plays with spectacular play-by-play highlights recorded on an accompanying audio cassette tape.

In both games the players call the shots, plan the strategy and execute the big play by outwitting their opponents and hearing the outcomes on a special audio cassette.

PART TWO - NEXT MONTH

CBS

MAIL ORDER



THE LOWEST PRICED AMIGA SPECIALIST

GAMES/LEISURE

Adventure Construction Set	£19.95
Alien Strike	£10.00
Arena/Brataccas	£23.90
Backlash	£13.50
Balance of Power	£19.95
Ball Raider	£13.50
Barbarian	£16.50
Bards Tale	£16.50
Borrowed Time	£16.50
Brainstorm	£7.95
Bureaucracy	£23.90
Challenger	£7.95
Chessmaster 2000	£16.50
Cruncher Factory	£7.95
Dark Castle	£16.50
Deadline	£12.95
Defender of the Crown	£19.95
Deja Vu	£19.95
Diablo	£13.50
Dr. Fruit	£7.95
Faerytale Adventure	£37.50
Final Trip	£7.95
Firepower	£16.50
Flight Simulator II	£37.50
Flight II Scenery Disk 7	£16.95
Flight 11 Scenery Disk II	£16.95
Feud	£7.95
Garrison	£17.50
GBA Basketball	£16.50
Gold Runner	£16.50
Grand Slam (Tennis)	£19.95
Grid Start	£7.95
Guild of Thieves	£16.50
Hacker II	£16.50
Hitchhikers Guide	£19.95
Hollywood Poker	£12.95
Hunt the Red October	£16.50
Impact	£10.00
Infidel	£12.95
Insanity Flight	£16.50
Jewels of Darkness	£13.50
Jinxter	£16.50
Kampfegruppe	£19.95
Karate (Eldersoft)	£16.50
Karate Kid II	£16.50
Karting Grand Prix	£7.95
King of Chicago	£19.95
Kings Quest Triple Pack	£16.50
Knight Orc	£13.50
Kwasimodo	£7.95
Las Vegas	£7.95
Leaderboard (A500 version)	£16.50
Leather Goddesses	£19.95
Leisuresuit Larry	£13.50
Leviathan	£13.50
Marble Madness	£13.50
Mercenary Compendium	£16.50
Mindshadow	£16.50
Mission Elevator	£13.50
Moebius	£16.50
Mouse Trap	£10.00
Ninja Mission	£7.95
Ogre	£16.50
Pawn	£16.50
Phantasie III	£16.50
Plundererd Hearts	£16.50
Plutos	£10.00
Portal	£19.95
Power Pack (6 Games)	£13.50
Q Ball	£13.50
Road Wars	£13.50
Roadwar 2000	£16.50

NOW IN KING OF CHICAGO £19.95

(2 drives required)

GARRISON ONLY £17.50

NOW IN ROAD WARS £13.50

★ **Phone for latest releases** ★

Roadwar Europa	£16.50
Rocky	£7.95
SDI	£19.95
Shadowgate	£16.50
Shanghai	£16.50
Silent Service	£16.50
Sinbad	£19.95
Sky Fighter	£10.00
Skyfox	£13.50
Spaceport	£13.50
Space Ranger	£7.95
Spellbreaker	£12.95
Starcross	£19.95
Starglider	£16.50
Stationfall	£19.95
Super Huey	£13.50
Suspended	£12.95
Terramex	£13.50
Terrorpods	£16.50
Tetris	£13.50
Test Drive	£16.95
Time Bandit	£13.50
Trivia Trove	£7.95
Ultima III	£19.95
Uninvited	£19.95
Vaders	£7.95
Xenon	£13.50
Zork I	£12.95
Zork II	£12.95

UTILITIES/BUSINESS

Aegis Animator & Images	£99.95
Deluxe Music Construction	£49.95
Deluxe Paint (PAL)	£49.95
Deluxe Video	£49.95
Devpac	£38.95
Digi Paint	£37.50
Drum Studio	£24.95
Gizmoz	£37.50
K-Seka	£36.50
K-Spread II	£56.50
Instant Music	£20.95
Omega File	£37.50
Pagesetter	£99.95
Vizawrite	£69.95

PERIPHERALS

Cumana CAX354 1 Meg Drive	£129.95
Parallel Printer Cable	£9.95
Philips 8833 Monitor & Lead	£274.95
Quickshot II Turbo Joystick	£11.95
Quality Mouse Mat	£6.95
Star NL-10 Printer & Cable	£199.95
10 DS/DD Disks & Library Case	£12.95
50+ Lockable Disk Box	£9.95

BOOKS

Advance Amiga Basic	£14.95
Amiga Dos Manual (Bantam)	£21.95
Amiga Handbook	£6.95
Beginners Guide	£13.00
Hardware Ref. Manual	£20.95
Inside Amiga Graphics	£14.95
Intuition Ref. Manual	£20.95
Programmers Handbook ('C')	£21.95
Programming The 68000	£20.95
Rom Kernal Ref. Exec.	£20.95
Rom Kernal Ref. Libs.	£29.20

MAIL ORDER DIVISION
17 EVERSLEY ROAD,
BEXHILL ON SEA, E. SUSSEX

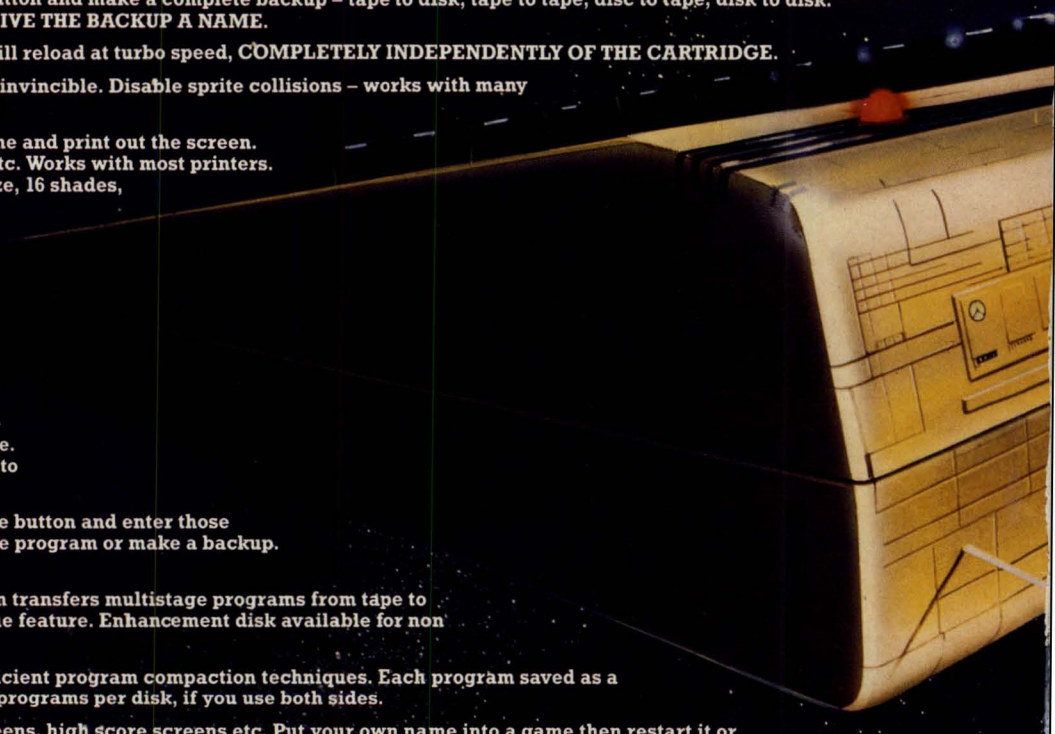
All prices include VAT & Free delivery, subject to availability
Prices may change without notice.
Goods are normally despatched within 24 hours
To order — Cheques and Postal Orders payable to CBS Computers
or send Visa/Access details — Please state Amiga
Cheques must be endorsed with bankers/credit card number

TOTAL BACKUP POWER
Now ACTION REPLAY

NOW EVEN MORE POWERFUL, MORE FRIENDLY AND WILL

ONLY £29·99 POST FREE

Action Replay works by taking a *'SNAPSHOT'* of the program in memory so it doesn't matter how the program was loaded – from tape or disk – at normal or turbo speed.



- **WARP 25. THE WORLD'S FASTEST SERIAL DISK TURBO – NOW EVEN FASTER! LOADS 200 BLOCKS IN 6 SECONDS! 240 BLOCKS IN 7 SECONDS!** – that's even faster than some parallel systems. Built into the cartridge – no extra hardware or software required. Includes supercast, warpsave, scratch, filecopy/convert. Integrated with normal disk turbo for supercompatibility – auto detects warp or normal format so no special load commands are required. Turbo and Warp 25 speed are entirely independent of the cartridge with SUPERBOOT.
- **SIMPLE TO USE:** Just press the button and make a complete backup – tape to disk, tape to tape, disc to tape, disk to disk. THE PROCESS IS AUTOMATIC – JUST GIVE THE BACKUP A NAME.
- **TURBO RELOAD.** All backups will reload at turbo speed, COMPLETELY INDEPENDENTLY OF THE CARTRIDGE.
- **SPRITE KILLER.** Make yourself invincible. Disable sprite collisions – works with many programs.
- **PRINTER DUMP.** Freeze any game and print out the screen. Eg. loading picture, high score screen etc. Works with most printers. MPS 801, 803, Star, Epson etc. Double size, 16 shades, reverse print option. Very versatile – no user knowledge required.
- **PICTURE SAVE.** Save any Hires multicolour screen to disk at the push of a button. Compatible with Blazing Paddles, Koala, Artist 64, Image System etc.
- **SPRITE MONITOR.** Unique Sprite monitors allows you to freeze the action and view all the sprites, watch the sprite animation, save or delete any sprite. Load sprites from one game into another to make customised programs.
- **POKES/CHEAT MODE.** Press the button and enter those pokes for extra lives etc., then restart the program or make a backup. Ideal for custom games.
- **MULTISTAGE TRANSFER.** Even transfers multistage programs from tape to disk. The extra parts fast load – a unique feature. Enhancement disk available for non standard multi-loaders (see below).
- **SUPER COMPACTOR.** Ultra efficient program compaction techniques. Each program saved as a single file. 3 programs per disk side – 6 programs per disk, if you use both sides.
- **TEXT MODIFY.** Change title screens, high score screens etc. Put your own name into a game then restart it or make a backup to tape or disk. Very simple to use.
- **MONITOR.** Full feature 'Floating' type MACHINE CODE MONITOR. All standard features plus many more:- assemble, disassemble, hex dump, interpret, transfer, compare, fill, hunt, number conversion, bank switching, relocate, load/save etc. Uses no memory. Full printer support.
- **DISK MONITOR.** A special monitor for use on the RAM inside your disk drive. All the usual commands – a useful hacking tool.
- **WHOLE DISK COPY.** Copy a full unprotected disk in under two minutes with only one drive.
- **FAST FILE COPY.** Works with standard and Warp 25 files of up to 249 blocks. Converts formats to and from Warp 25.
- **FAST FORMAT.** Under 20 seconds.
- **TOOLKIT COMMANDS.** A whole range of useful new commands including: AUTO LINE NUMBERING, DELETE, MERGE, APPEND, OLD, LINESAVE, etc., PRINTERLISTER – list any program (including directory) directly from disk to printer or screen without corrupting memory.
- **REDEFINED FUNCTION KEYS.** Single stroke commands for operation of many common commands including: LOAD, SAVE, DIR. Load from directory – no need to type in filename.
- **TAPE TURBO.** Designed to make turbo load/save for your own programs. No screen blanking during loading.

REMEMBER all features are built in and available at the touch of a key. All features work with both **TAPE** and **DISK.** (Except multipart transfer & disk file utility).

ENHANCEMENT DISK

Contains routines for transferring many of the non-standard multi-load games from tape to disk. Over 40 titles. Latest additions are **LAST NINJA, ROAD RUNNER** (infinitive lives option), **BLOOD 'N' GUTS** (play any event), **DECEPTOR, LEADERBOARD EXEC** and **WORLD CLASS, KILLED UNTIL DEAD, MASK, INDIANA JONES, IMPLOSION, TAIPAN,** plus all the classics including **SUMMER GAMES, WORLD GAMES, DRAGONS LAIR** 1 and 2, **GAUNTLET, SUPERCYCLE** etc. Works in conjunction with **ACTION REPLAY.**

Disk includes **GRAPHIC SLIDESHOW** for displaying pictures saved with **ACTION REPLAY.** Plus Warp 25, Superboot – non Action Replay owners can speed up their 'expert' or 'freeze machine' programs to see what they have been missing.

TAKES A QUANTUM LEAP
MK IV HAS ARRIVED!

FOR CBM64/128

BACKUP MORE PROGRAMS THAN ANY RIVAL UTILITY.

BUT THATS NOT ALL ... NOW AVAILABLE FOR THE SERIOUS PROGRAM HACKER

ACTION REPLAY IV 'PROFESSIONAL'™

● All the features of the normal Action Replay IV but with an amazing on board LSI LOGIC PROCESSING CHIP. Plus 32K operating system ROM and 8K RAM CHIP. The first RAM/ROM based cartridge of its type!

ALL THE MK IV FEATURES PLUS ...

● **FULLY INTEGRATED OPERATION.** The MK IV 'Professional' has all the features of the MK IV plus an onboard custom LSI LOGIC PROCESSING CHIP that integrates the whole range of utilities and makes them available at the press of a button at any time.

● **EXTENDED MONITOR.** The 'Professional' has an extra powerful machine code monitor. Because it has both ROM and RAM at its disposal the Professional can freeze any program and then examine the WHOLE OF COMPUTER MEMORY in its frozen state including screen RAM, ZERO PAGE and STACK.

Full feature disassembly, compare, fill, transfer, hunt, relocate, jump etc. etc. In fact all the features of the best fully blown monitor available. Return to the frozen program at the press of a key at the point you left it! An absolute must for the program hacker – or even the programmer who needs to de-bug his program.

● **INTELLIGENT HARDWARE.** The Professional hardware is unmatched anywhere in the world today. The special logic processing chip can cope with protection methods as they appear by reacting to its environment.

MK IV PROFESSIONAL ONLY £34.99 POST FREE

WARP 25 Reloads an average BACK-UP in 6 Seconds!!

UPGRADE INFORMATION

MK III TO MK IV. Just send £9.99 and we will send you the new MK IV Chip to plug into your cartridge. Fitting is very easy.
MK III TO MK IV 'PROFESSIONAL'. Send your old cartridge plus £19.99 and we will send you a new Professional MK IV.

MK 2 Action Replay owners can get £10 as part exchange against either the MK IV or Professional. Send old cartridge plus balance.

PERFORMANCE PROMISE

Action Replay will backup any program that any other cartridge can backup – and more! It also has an unmatched range of onboard features. Before you buy check our competitors ads to see what they offer and see how many of the Action Replay MK IV features are either not there or have to be loaded from Supergate disks etc. When you buy Action Replay if you don't find our claims to be true then return it within 14 days for a full refund.

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER ...

BY PHONE	BY POST	EUROPEAN ORDERS
0782 273815 24 hr Credit Card Line	Send cheques/PO's made payable to 'Datel Electronics'	ADD £1.00 P+P OTHER COUNTRIES ADD £3.00 P+P Fax Orders 0782 264510

DATEL ELECTRONICS

UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT.

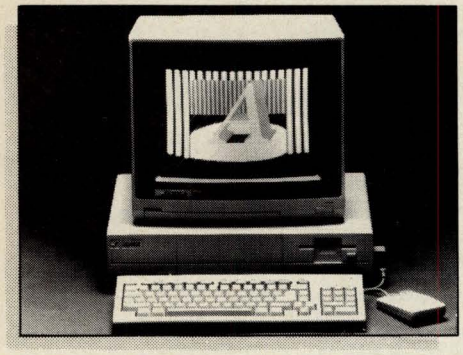
SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

Commodore

PEARTREE COMPUTERS LTD

Approved Commodore Dealer

Peartree House, No 1 Blackstone Road, Stukeley Meadows Industrial Estate, Huntingdon, Cambs PE18 6EF. Telephone (0480) 50595



AMIGA COMMODORE HARDWARE

COH001	AMIGA 2000 BASIC MODEL	£995.00
COH002	AMIGA 1000256K RAM BASIC MODEL	£339.00
COH003	AMIGA 500 512K RAM BASIC	£399.00
COH004	AMIGA 1081 HI RES MONITOR	£229.00
COH005	AMIGA 2ND DRIVE 3.5 INCH	£119.00
COH006	INSIDER 1MB RA1 CARD	£309.00

LARGEST UK AMIGA SOFTWARE CENTRE

COS001	SOFTWOOD FILE II SOUND GRAPHIC	£99.00
COS002	MIAMIGA LEDGER DISCOVERY GAME	£79.00
COS003	DISCOVERY GAME MATHS & SPELL	£33.00
COS004	SCRIBBLE II	£79.00
COS005	ANALYSE	£79.00
COS006	TEXTCRAFT	£49.00
COS007	MCC PASCAL	£75.00
COS008	CAMBRIDGE LISP	£119.00
COS009	METACOMCO TOOKLIT	£33.00
COS010	METACOMCO SHELL	£42.00
COS011	ASSEMBLER	£59.00
COS012	ABSOFT A/C FORTRAN	£239.00
COS013	ABSOFT A/C BASIC	£139.00
COS014	DIGVIEW II	£189.00
COS015	AEGIS ANIMATOR/IMAGES	£99.00
COS016	AEGIS IMAGES	£39.95
COS017	AEGIS IMPACT	£79.95
COS018	AEGIS DRAW PLUS	£249.95
COS019	AEGIS ART PACK I	£39.00
COS020	AEGIS SONIX	£69.00
COS021	AEGIS ART PACK II	TBA
COS022	DYNAMIC CAD VERSION 2.3	£429.00
COS023	PCLO JUNIOR	£59.00
COS024	PCLO FULL	£169.00

LARGEST UK AMIGA SOFTWARE CENTRE

COS025	PCLO PLUS	£429.00
COS026	ZUMA FONTS VOLUMES 1,2,3	£33.00
COS027	DELUX PAINT II LATEST VERSION	£118.00
COS028	DELUX PRINT	£79.00
COS029	DELUX VIDEO	£99.00
COS030	GRAPHICRAFT	£49.00
COS031	PAGESETTER	£129.00
COS032	LASERSCRIPT	£37.00
COS033	GOLDSPELL	£37.00

AMIGA GAMES

COS001	SUBLOGIC FLIGHT SIMULATOR II	£49.00
COS002	DEFENDER OF THE CROWN	£29.00
COS003	SINBAD	£39.00
COS004	FAERY TALE ADVENTURE	£39.00

*More than 100 other titles available. Please telephone **(0480) 50595** for prices.*

PRINTERS

PRT001	EPSON LX86 PRINTER	£199.00
PRT002	EPSON FX800	£399.00
PRT003	EPSON FX1000	£499.00
PRT004	EPSON LQ800 PRINTER	£499.00
PRT0041	EPSON LQ800 TRACTOR FEED	£44.00
PRT0042	EPSON L1800 SHEET FEED	£141.90
PRT005	EPSON LQ1000 PRINTER	£599.00
PRT008	MP 165 PRINTER	£199.00
PRT011	JUKI 6100 RPINTER	£299.00
PRT013	JUKI 6300 PRINTER	£799.00
PRT014	EPSON LX TRACTOR FEED	£22.00
PRT015	EPSON FX85 TRACTOR FEED	£32.00
PRT016	EPSON LX SHEET FEEDER	£59.95
PRT017	EPSON FX85 SHEET FEED	£129.00
PRT018	JUKI 6100, 6200, 6300 SHEET FEED	£199.00
PRT019	STAR NL10	£219.00
PRT020	CANON LBP SA1 LASER PRINTER	£1950.00
PRT021	PANASONIC KX-P1081	£147.00
PRT022	FX80 SERIAL CARD	£35.00
PRT023	EPSON LQ1000 TRACTOR FEED	£50.00
PRT024	EPSON LQ1000 CUT SHEET FEEDER	£130.00

PLEASE USE OUR CODES WHEN ORDERING

PRINTERS

PRT025	EPSON FX80 + SHEET FEED	£129.95
PRT026	FX1000 SHEET FEEDER	£169.00
PRT027	CANON A55 DOT MATRIX PRINTER	£429.00
PRT028	TAXAN KP815	£339.00
PRT029	LQ800 TRACTOR FEED	£44.00
PRT030	SQ2500 PRINTER EPSON	£1345.00
PRT031	SQ2500 D/BIN SHEET FEED	£335.00
PRT032	SQ2500 TRACTOR FEED	£88.00
PRT033	LQ1000 TRACTOR FEED	£55.00
PRT034	SQ2500 INK JET	£24.99
BPRT01	BROTHER HR20	£339.00
BPRT011	HR20 TRACTOR FEED	£99.00
BPRT012	HR20 CUT SHEET FEED	£199.00
BPRT02	BROTHER HR40	£899.00
BPRT028	BROTHER 1009 TRACTOR FEED	£28.00
BPRT03	SHEET FEED HR20	£199.00
BPRT08	HR25/35 CUT SHEET FEED	£199.00
BPRT10	DASIYWHEELS	£16.95
BPRT20	BROTHER M1109	£179.00
BPRT21	BROTHER M1109/PRES	£199.00
BPRT22	BROTHER M1409	£299.00
BPRT23	M1409 CUT SHEET FEED	£99.00
BPRT24	M1409/M1509/M1709 NLQ FONT	£79.00
BPRT25	M1409/M1509/M1709 NLQ FONT 16K	£79.00
BPRT26	BROTHER M1509	£399.00
BPRT27	BROTHER M1709	£479.00
BPRT271	BROTHER M1709 CUT SHEET FEED	£164.00
BPRT28	BROTHER 2024L PARALLEL	£599.00
BPRT29	BROTHER 2024 SERIAL	£399.00
BPRT30	CUT SHEET FEED	£169.00
BPRT31	BROTHER M4018	£1299.00
BPRT32	A/C ADAPTOR FOR BROTHER	£12.00

We accept Barclaycard/Visa/Access/Mastercard/postal orders or cheques. We accept government and educational orders. Leasing available, please apply for written details.

You may purchase any of the items listed, by cheque made payable to **PEARTREE COMPUTERS LTD.**

All you have to do is to list your requirements on a sheet of paper, post it to us quoting ref, and we will despatch your goods within 24 hours, whenever possible, stock permitting.

Please add the following amounts for postage and packing:

Items below **£10.00**	add **£1.50**
Items below **£50.00**	add **£2.50**
Items below **£100.00**	add **£3.50**
Items over **£100.00**	add **£10.00**

Independent courier for items over £100.00

All prices exclude VAT.

Access/Barclaycard holders—call us on our new special line: **(0480) 50595**

Prices are correct at time of going to press. Peartree Computers reserves the right to change prices without prior notice.

Spelling out the Adventure

"Words, words and more words"

Peter Gerrard, continuing his series on adventure writing, tells how to open the doors to success

Despite their being five doors and only two boxes, this requires (in its expanded form) almost as much code, because apart from initially being inside one another the boxes can also be used to hold things. Presumably, when opening a box, a player would be gifted enough to see whether or not there was something in it: this routine accounts for that, as well as prompting the player to either EXAMINE or SEARCH the box if he wanted specific information about exactly what it was that he'd found.

Line 2070 checks to see if the player is trying to open the smaller box, in which case he should either be carrying it or it's in the larger one, and so we go to line 2081. If neither of those latter two conditions is fulfilled then line 2072 tells the player that the smaller box is not in his possession and goes off to line 10 to get him to try again. Lines 2074 and 2080 are thus concerned with large boxes only, and line 2074 checks to see whether the player is carrying it or not, objects having a value of -1 if they're in the player's possession.

If the variable o1 is set then the box is already open, which is what line 2076 is dealing with, while the next line, line 2078, concerns itself with whether or not this is the first time that the player has tried, in the words of the immortal quiz game, to open the box. If it is then that line tells him that he's found a smaller box inside it, updates the 'box opening' variable (the unfortunately named bo), updates the 'box opened' variable o1, and brings the smaller box into existence by giving it a value of -2, thus indicating that it is inside the other box and not actually in the player's immediate possession.

Otherwise line 2080 just updates the ordinary variables, sets the variable bt to -2 (we'll see why in a moment) and trundles off to line 2085 to tell the player if there's anything of interest in the box or not.

Lines 2081 and 2084 are for the smaller box, and follow a similar set of instructions to those for the larger one, the only difference being that we are not going about finding ever smaller boxes. I toyed with the idea, I really did, but decided in the end that it was taking things a little bit too far. Two boxes will do.

First of all, line 2081 tells us that if the smaller box is in the larger one (ob%(2)=2) and the larger box is not in the player's possession (ob%(1)<>-1) then there's no way that the player can open it, so go to line 2074 and print out a suitable message. The variable o2 is used to look after this diminutive box, and so line 2082 sees whether or not it's already open. Line 2083 makes use of a line from the 'close' routine, because if the smaller box is in the larger one and the larger one is closed, then the player can't open the one without first of all opening the other. Line 2146 contains a suitable message to cover that situation. Line 2084 then just updates the variable that handles the smaller box being opened, before setting the mysterious bt to be equal to -3.

"If at the end of all this nothing has been found then line 2086 informs the player of this lamentable fact."

The variable bt, then. If we're opening the smaller box then it's set to equal -3, but if we're opening the larger one then it's set to equal -2. This is because objects have various values associated with them. Zero if they don't exist, a location number if that's where they happen to be found, -1 if the player's carrying them, -2 if they're in the large box, and -3 if they're in the small one. Thus in order to be able to use the one routine to tell the player whether or not he's found something of interest in a box, we set bt to be equal to the appropriate value and then use lines 2085 to 2088 for both boxes.

Following on from all that, line 2085 sets the 'objects found' variable of to equal zero (we haven't found anything yet) and then checks every object to see if it carries the value bt, or, in other words, is it in whatever box we happen to be looking at at the time, -2 for the large one, -3 for the small one.

Needless to say we can only find things when opening boxes, not closing them, and this is just one of the differences between this routine and the next one. Remember you'll have to be very careful with things like 'put (object) in box' or 'place (object) in box' and make sure that

continued on next page

the object goes in the right one and has the right value associated with it. One little slip up could very easily render a game unsolvable. Now, let's close a few things.

If something's found then the variable of is updated, and the check continues in line 2986. If at the end of all this nothing has been found then line 2086 informs the player of this lamentable fact, but if something has cropped up then line 2988 tells the player that there's something there, and if he's got an atom of sense he will then examine or search the box in order to find out what is it.

The Verb CLOSE

Since we're following the same sort of lines as before we won't be going into quite so much detail this time around, just sufficient to let you know what's going on.

As before, line 2102 checks to see if we're opening a box or a door, and if it's a box then program execution continues at line 2132. After eliminating the impossible, the next lot of lines (lines 2105 to 2132) then perform the reverse of the open routine, and ensure that the player is trying to close the right door in the right location and isn't bothering himself with attempting to close doors that are already closed. The coloured doors in locations 52, 53 and 54 snap shut and lock themselves when closed, as seen by the statement in line 2130, and so we don't need our check for keys as we did with the open routine.

Boxes are handled by lines 2132 to 2148, and follow much the same lines as before. Remember, we have to make careful checks to see that items are in the player's possession, that he isn't closing something that's already shut, and, most important, he can't close the smaller box if the larger one is already closed and the smaller one is inside it. Line 2146 is used for this, and by careful wording of the statement we were also able to use this in the open routine. The same statement applies to both circumstances, with the smaller box being placed out of reach by being shut inside the larger one.

Careful examination of your code before you commit it to the game will save an awful lot of work on your part later on when it comes to checking the thing.

The verb CLOSE

```
2100 REM close
2102 IF no=1 THEN 2132
2103 IF cp<>5 AND cp<>48 AND cp<>52 AND
cp<>53 AND cp<>54 THEN PRINT"There's not
hing to close here.":GOTO 10
2104 IF no<>2 THEN PRINT"You can't do th
at.":GOTO 10
2105 IF cp=5 AND d1=0 THEN PRINT "You've
 already done that.":GOTO 10
2106 IF cp=5 THEN d1=0:GOTO 2131
2107 IF cp=48 AND d2=0 THEN PRINT"You've
 already done that.":GOTO 10
2108 IF cp=48 THEN d2=0:GOTO 2131
2109 IF li=0 THEN 2111
2110 IF (cp=52 AND li<>3) OR (cp=53 AND
li<>4) OR (cp=54 AND li<>5) THEN PRINT"T
hat's the wrong door!":GOTO 10
2111 IF (cp=52 AND d3=0) OR (cp=53 AND d
4=0) OR (cp=54 AND d5=0) THEN PRINT "You
've already closed it.":GOTO 10
2112 IF cp=52 THEN d3=0:GOTO 2130
2113 IF cp=53 THEN d4=0:GOTO 2130
2114 IF cp=54 THEN d5=0:GOTO 2130
2115 PRINT"How did you get here?!":GOTO
10
2130 PRINT"You close the door and hear a
 lock snap into place.":GOTO 10
2131 PRINT "You close the door.":GOTO 10
2132 IF li=1 AND (ob%(2)=-1 OR ob%(2)=-2
) THEN 2142
2134 IF li=1 THEN PRINT"You haven't got
the smaller box.":GOTO 10
2136 IF ob%(1)<>-1 THEN PRINT "You haven
't got the box.":GOTO 10
2138 IF o1=0 THEN PRINT"You've already d
one that.":GOTO 10
2140 o1=0:PRINT"You close the box.":GOTO
 10
2142 IF o2=0 THEN PRINT"You've already d
one that.":GOTO 10
2144 IF ob%(2)=-1 THEN PRINT"You close t
he box.":o2=0:GOTO 10
2146 IF o1=0 THEN PRINT"You can't.  The
larger box is already closed and you can
't get at it.":GOTO 10
2148 o2=0:PRINT"You close the smaller bo
x inside the larger one.":GOTO 10
```

I'll leave you to add a few more words to your vocabulary list, and make some tentative steps at putting the relevant code in, and we'll finish for this month with a brief look at the

Now we're in the position of knowing that the player is in a location with a door and that he's trying to open it.

I've used the variables d1 through d5 to keep a check on each of the doors, the variable being set to a 1 if the door is open and 0 if it's closed. Thus the next four lines, lines 2055 to 2058, see whether or not the doors in locations 5 and 48 are open

or not, and adjust the situation very thing that I just mentioned: checking the game, and the sort of errors that all too frequently crop up.

A great temptation occurred when I was doing a spoof version of Colossal Cave, called (with great originality) Enormous Cave. In the original, you may remember that by watering the little plant twice you made it grow explosively until it filled the pit you were standing in, whereupon you could then climb the plant and explore a whole new world. Water it a third time and it wilted away and died, thus cutting off the new world. I thought that in my version it would be a good idea to have the plant continue to grow every time that you watered it, making it into an immense monster of a plant if the player had enough time and patience. I didn't expect one game tester to have the patience of Boycott carving out a century and water the thing so much that it filled the computer and made the game run out of memory. Curb your enthusiasm for problems of this nature.

Perhaps nature wasn't quite the right word to use there!

And finally . . . .

I usually present my problems in such a way that a player can solve, say, two or three in any old order but, generally, will have to go through in the kind of order that I want him to. In other words, perhaps problem 8 can only be solved after problem 5, problem 11 only after problem 8, but the intervening ones can be dealt with as the player sees fit. Naturally enough this then means that I have to be very careful about where all my game objects are placed, because if the item required to solve problem 8 could only be found after solving problem 11 then this would, of course, render the game impossible. I'm sure many adventures fall down at this stage, making an awful lot of unnecessary work for the programmer, and it can all easily be avoided with the aid of a decent map drawn on a large scale. The original map for Enormous Cave, for instance, was a very small one, but in order to write the game and fit everything in correctly so that it could be solved I ended up with something that could have given the Bayeaux Tapestry a run for its money. Think big, and one day of drawing a detailed, large scale map, will save you a week of programming headaches when you can't get the thing to work properly.

Oh well, out of space as usual, so carry on adding those verbs and remember to check everything very, very carefully, Andy Moss might be reviewing your games! Bye for now.

Peter Gerrard.

CLIK

AMIGA SOFTWARE SPECIALIST

Unit 1, Willowsea Farm, Spout Lane North, Stanwell Moor, Staines, Middx TW19 6BW

*All titles marked * will be shipped on release data.*

GAMES	RRP	OUR PRICE
AUTO JEWEL	24.95	18.50
ALIEN STRIKE	19.95	15.00
ADVENTURE CONS SET	29.95	21.50
ARTS PARTS I	9.95	7.50
ARTS PARTS II	9.95	7.50
ARCTIC FOX	29.95	21.50
ARAZOKS TOMB	28.75	20.50
ARENA/BRATTACUS	34.95	24.75
ARCHON	29.95	21.50
ARCHON II	29.95	21.50
AMIGA FILE	39.95	26.50
ALTERNATE REALITY*	24.95	18.50
BRAINSTORM	9.95	7.50
BONE CRUNCHER	14.95	11.50
BATTLE THRU TIME	9.95	7.50
B.M.X.	9.95	7.50
BALL RAIDER	19.95	15.50
BACKLASH	19.95	15.50
BALLYHOO	29.99	21.50
BALANCE OF POWER	39.95	26.50
BARABARIANS	24.95	18.50
BUREAUCRACY	34.99	24.75
BORROWED TIME	24.99	12.00
BASEBALL	24.99	18.50
BARDS TALE	24.95	18.50
CHAMPION BACKGAMMON	9.95	7.50
CALIFORNIA GAMES*	24.99	18.50
CHESSMASTER	24.95	18.50
CHAMPION GOLF	34.99	24.75
CHALLENGER	9.95	7.50
CUT THROATS	29.99	12.00
CRUNCHER FACTORY	9.95	7.50
7 CITIES OF GOLD	29.95	21.50
DEEP SPACE	29.99	21.50
DEADLINE	29.99	12.00
DR FRUIT	9.95	7.50
DEMOLITION	9.95	7.50
DEJA VU*	29.95	21.50
DIABLO	19.95	15.50
DEFENDER OF CROWN	29.95	21.50
EAGLES NEST*	19.95	15.50
EXTENSOR	19.95	15.50
ENCHANTER	29.99	12.00
EARL WEAVER BASEBALL*	24.95	18.50
FIGHTER COMMAND	29.99	21.50
FAERY TALE ADV	49.99	32.50
FEUD	9.99	7.50
FLIGHT SIM	49.95	34.50
FINAL TRIP	9.95	7.50
FOOTBALL GFL*	24.99	18.50
FLIGHT SIM II	49.95	32.50
FIREPOWER	24.95	18.50
GNOME RANGER*	14.95	11.50
GIZMOSS*	49.95	32.50
GUNSHIP II*	24.95	18.50
GUILD OF THIEVES	24.99	18.50
GOLDRUNNER	24.95	18.50
GRID START	14.95	9.95
GAUNTLET*	24.99	18.50
HACKER	24.99	12.00
HACKER II	24.99	12.00
HOLLYWOOD POKER	19.95	15.50
HOLLYWOOD HIJINX	29.99	21.50
HITCH HIKER	29.99	21.50
INSANITY FLIGHT	24.95	18.50
IMPACT	14.95	9.75
INDOOR SPORTS	19.50	15.50
INFIDEL	29.99	12.00
JINXTER	24.99	18.50
JEWEL OF DARKNESS	19.95	15.50
JUMP JET*	9.95	7.50
JIGSAW MANIA*	9.97	7.50
KWASIMODO	9.75	7.50
KAMPFGRUPPE	29.99	21.50
KARATE	19.95	15.50
KARATE KID II	24.95	18.50
KINGS QUEST PK	24.99	18.50
KARTING GRAND PRIX	9.95	7.50
KNIGHT ORC	24.95	18.50
KINGS QUEST III	29.99	21.50
LITTLE COM PEOPLE	34.99	12.00
LEADERBOARD	24.95	18.50
LEISURE SUIT LARRY	24.99	18.50
LEATHER GODDESS PHOBOS	29.95	21.50
MECH BRIGADE*	29.99	21.50
MINDSHADOW	24.99	12.00
MIND FOREVER	34.99	12.00
MOEBIUS	21.70	16.75
MOON MIST	29.95	21.50
MARBLE MADNESS	29.95	21.50
MOUSE TRAP	14.95	11.50
MEAN 18	29.99	21.50
NINJA MISSION	9.99	7.50
OTTELLO	9.95	7.50
ORGE OF EMPIRE	24.99	18.50
ONE ON ONE	29.95	21.50
PROMISE	49.95	32.50
POOL	9.99	7.50
PAC-LAND	19.95	15.50
PUB CRAWL*	9.99	7.50
PORTAL	34.99	12.00
PLUTOS	14.95	11.50
PLANETFALL	29.99	12.00
PHANTASIE	24.99	18.50
PAWN	24.95	18.50
ROADWARS*	19.95	15.50
ROADWAR 2000	24.99	18.50
RED OCTOBER	21.69	16.50
ROCKY	9.95	7.50
SKYFOX	14.95	11.50
SKYFIGHTER	14.95	11.50
SILICON DREAMS	19.95	15.50
SILENT SERVICE	24.95	18.50
STAR GLIDER	24.95	18.50
STARCROSS	29.99	12.00
STATIONFALL	29.99	12.00
SORCERER	29.99	12.00
SUSPECT	29.99	12.00
SUPER HUEY	19.99	15.50
SUSPENDED	29.99	12.00
SKYFIGHTER*	14.95	11.50
STREET SPORTS BASEBALL*	24.95	18.50
SOLID GOLD	9.99	7.50
SPACERANGER	9.99	7.50
SPELLBREAKER	29.99	12.00
SPACE BATTLE	9.95	7.50
SPACE QUEST	29.9	21.50
STRIP POKER	19.95	15.50
SWOOPER	19.95	15.50
STRATEGIC DEF INIT	29.95	21.50
SURGEON	49.95	32.50
SEASTALKER	29.95	12.00
SEASONS & HOLIDAYS*	9.95	7.50
SHANGHAI	24.99	18.50
SINBAD	39.95	24.75
SINBAD & THRONE OF FALCON	29.95	21.50
TIME & MAGIK	19.95	15.50
TRINITY	34.99	12.00
TERROR PODS	24.95	18.50
TEMPLE OF APSHAI*	24.99	18.50
TASS TIMES	24.99	12.00
TESTDRIVE	24.95	18.50
THAI BOXING	9.95	7.50
UNINVITED	29.95	21.50
ULTIMA 4*	24.99	18.50
ULTIMA 3	24.99	18.50
UNIVERSAL MIL SIM*	24.95	18.50
VADER*	9.95	7.50
WINTER GAMES	24.99	18.50
WINTER OLYMPIAD 88	19.95	15.50
WISHBRINGER	29.99	12.00
WORLD GAMES*	24.99	18.50
WITNESS	29.99	12.00
WIZARDS CROWN*	29.99	21.50
WANTED WESTERN GAMES*	19.99	15.50
WORLD DARTS	9.99	7.50
ZORK I	29.99	12.00
ZORK II	29.99	12.00
ZORK III	29.99	12.00

UTILITIES	RRP	OUR PRICE
AC BASIC	195.00	132.50
AUDIO MASTER	46.00	32.00
ANALYZE 2	149.95	102.50
AQUISITION 1.3	249.00	185.00
ANIMATOR/IMAGES	103.50	75.50
ASSEMBLER	69.95	49.50
AC FORTRAN	295.00	202.50
BBS PC	99.95	65.00
BUTCHER	29.95	21.50
CITY DESK	114.95	85.00
CLIMATE	39.95	29.50
DRAW PLUS	184.00	135.00
DIGA	57.50	42.50
DIGIVIEW ADPT	22.95	16.50
DIGIVIE 2.0	185.00	142.50
DIGIPAINT	59.95	42.50
DELUXE PAINT II	69.95	48.50
DELUXE PRINT*	24.95	18.50
DELUXE MUSIC CON SET*	69.95	48.50
FUTURES SOUND	175.00	155.00
FLIPSIDE	29.95	21.50
GOLDSPELL	39.95	29.50
HOT & COOL JAZZ	9.95	7.50
HAI CALC	59.95	42.50
INSTANT MUSIC	29.95	21.50
LASERSCRIPT DRIVER	39.95	29.50
LISP	149.95	95.50
LATTICE C VER 4.0	172.50	122.50
MODULAR 2 (DEVELOPER)	149.95	110.50
MAXIPLAN A500	99.95	72.50
MAXIPLAN PLUS	149.95	102.50
MUSIC STUDIOS	34.99	24.75
MI-AMIGA FILE	99.95	65.00
MCC PASCAL	89.95	62.50
MODULAR 2 (STD)	99.95	69.50
MICRO APL	99.95	72.50
MARAUDER 2	39.95	29.50
ORGANISE	99.95	72.50
PUBLISHER 1000	199.95	120.00
PUBLISHER PLUS	99.95	72.50
ROCK 'N ROLL	9.95	7.50
SONIX	57.50	39.50
SEGA ASSEMBLER	49.95	34.50
SOFTWOOD FILE 2	99.95	72.50
SHELL	49.95	34.50
SCRIBBLE 2	99.95	72.50
SOFTWOOD WRITE	99.95	72.50
TOOLKIT	39.95	29.50
TV TEXT	99.95	72.50
TEXTCRAFT	56.35	39.50
VIP PROFESSIONAL	228.25	165.00
VIDEO TITLER	71.30	50.50
VISAWRITER	99.95	72.50
VIDEOSCAPE 3D	143.75	110.00
WORD PERFECT	228.85	175.00
THE WORKS (INCL SCRIBBLE 2, ANALYSE 2, ORGANISE)	149.95	105.00
X CAD	460.00	325.00
ZUMA FONTS 1, 2 & 3	34.95	24.75
BLANK DISCS (10 incl box)	27.75	12.50

We now accept Access credit cards

All our prices include VAT and First Class Post. Telephone

(0753) 682988

For personal service please make cheques payable to Clik and send to:

CLIK, UNIT 1, WILLOWSEA FARM, SPOUT LANE NORTH, STANWELL MOOR, STAINES, MIDDX. TW19 6BW.

Books

'UP & RUNNING! MICROCOMPUTER APPLICATIONS'

Marilyn K. Popyk (Addison Wesley £26.95)

Instead of 'Microcomputer Applications' this book should have been subtitled "Everything You Didn't Even Know You Wanted To Know About Computers". In 650 pages — give or take — Ms. Popyk crams in information on hardware, software, word processing, spreadsheets, database management, graphics, desktop publishing... I'm inclined to write 'if it's not in here then it doesn't exist' but there *are* a few omissions and errors. Still, no-one's perfect.

The author says, for example, that DTP programs must have a laser printer. No so. Some of them work very well on a dot-matrix. And although she mentions many computer manufacturing companies she does not, *quelle horreur!*, seem to think that we possess any in our (U.K.) neck of the woods. Somebody should enlighten the lady.

'Up & Running' has actually been written as a 'user friendly' text book. Within the chapters it incorporates 'windows' one of which, 'Random Access', explains in more detail accessories which are mentioned in that particular chapter, (such as the innards of a 'mouse').

Another, 'Don't Panic', tells you what to do if, for instance, you press the wrong button whilst in a program.

Each section starts with an anecdote to illustrate the application of whatever is the subject in question. For example, the 'Live Aid' concert in 1985, a logistical nightmare of global proportions for its producers, was planned, organised and executed with the aid of a microcomputer equipped with an integrated software package; the lions in Serengeti Wildlife Park, in Tanzania, are identified by their whisker prints and battle scars in a database program, (booted into a portable computer), which is being used there by behavioural biologists.

There's also a DJ in San Francisco who has filled a 15-megabyte hard disk with his store of jokes and reckons he still has a million and a quarter more gags to go. (Bob Monkhouse eat your heart out!).

In addition, plenty of photographs and diagrams go to make this book much more interesting than the usual 'text book'. Ms. Popyk not only knows her subject, she also knows how to write about it in a entertainng way.

'Up & Running' is not cheap but if you would like to know as much as possible about computers and what makes them run, then this is the book for you.

SKALLAGRIGG

William Horwood
(Viking Books, £11.95)

Occasionally in the life of a book reviewer comes a story that makes the job seem worthwhile. Such a one is 'Skallagrigg', by William Horwood (Viking Books, £11.95).

Taken at its face value it is the story of a spastic girl's endeavours to prove to the world, and to herself, that she is as good as — if not better than — the able-bodied people who surround her. But that only skims the surface of this gripping novel.

It's a story on three levels. It is 1995 and the narrator of part of the story, a computer games addict, is told about something called 'Skallagrigg', a 'Dungeons & Dragons' — type game which swept the world in the late 1980's. He finds a copy and, in playing it, begins to see a message which he realises can be meant only for him. So he determines to find out about the inventor of the game. She, he discovers, was a cerebral-palsied girl named Esther Marquand and the second level of the story is Esther's, and what a brilliant piece of writing her story is. Her father, at first just a young executive in an office equipment firm but who later becomes a millionaire manufacturer of computers, rejects the handicapped baby because, at her birth, her mother died. Esther's childhood and youth is given over trying to prove to her father she is worth loving. But it is only when she discovers that she can use a computer keyboard, that she is able to realise her full potential. (One of the games she invents she programmes for Commodore!)

All her life Esther has heard stories about Arthur, an intelligent but handicapped man incarcerated in a mental home sometime in the past who, in times of dire need, was protected by a supposedly mythical being called 'Skallagrigg'. These stories are passed on only by the handicapped to each other, no able-bodied person knows about Arthur or the tales that have grown up about him. Arthur's story is level three.

All three lives, the narrator's, Esther's and Arthur's, are interwoven and William Horwood brings such skills and expertise to the telling that the reader skips from the 1920's to the 1960's-80's and on into the future, and back again, without any lessening of the tension or suspension of belief.

'Skallagrigg' is almost like a SF detective story. As Esther searches for Arthur and the narrator, in turn, researches Esther's life, it is obvious that the final pages will draw together the differing threads of all three lives even though the periods in which they exist are seventy years apart.

I found the most fascinating element of 'Skallagrigg' was that although it is obvious that Esther is severely palsied, wheelchair-bound with speech that is almost incomprehensible — such is the author's skill when it is her story — one forgets about her disabilities and thinks of her as able-bodied, until something happens that brings back to the reader, with a shock, the remembrance of her handicaps. Mr Horwood writes with a knowledge and compassion of the handicapped that only someone who has constant contact with them can. This is almost certainly because he has a daughter who suffers from the same disability as Esther Marquand.

'Duncton Wood', William Horwood's first novel was a best-seller, 'The Stonor Eagles' and 'Callanish' also did well. 'Skallagrigg', if there is any justice, will outsell them all.

ABOVE TOP SECRET

Timothy Good
(Sidgwick & Jackson £14.95)

Have you ever seen an Unidentified Flying Object and not told anyone because you were scared they'd think you'd gone off your rocker? Fear not, you're not as crazy as you thought you were. Thousands of people all over the world have not only seen but also had 'close encounters' with alien spacecraft AND their occupants.

Who says so? Timothy Good in his book 'Above Top Secret'. And not just ordinary people know about the space travellers but the Governments of the world do, too. There is a great big 'cover-up' going on, he says, because they're worried that if Mr. & Mrs. General Public found out about the amount of contact with the 'visitors' that has actually taken place there would be panic on a massive scale.

'Above Top Secret' certainly has an impressive dossier of documentary evidence which seems to back up Tim Good's claims. Photostats of inter-departmental letters between U.S. Government agencies such as the CIA and the FBI, copies of 'Top Secret' documents, acts, figures, drawings, photographs, they're all here.

If reading this book doesn't convince you that there are 'more things in Heaven and Earth . . .', nothing will!

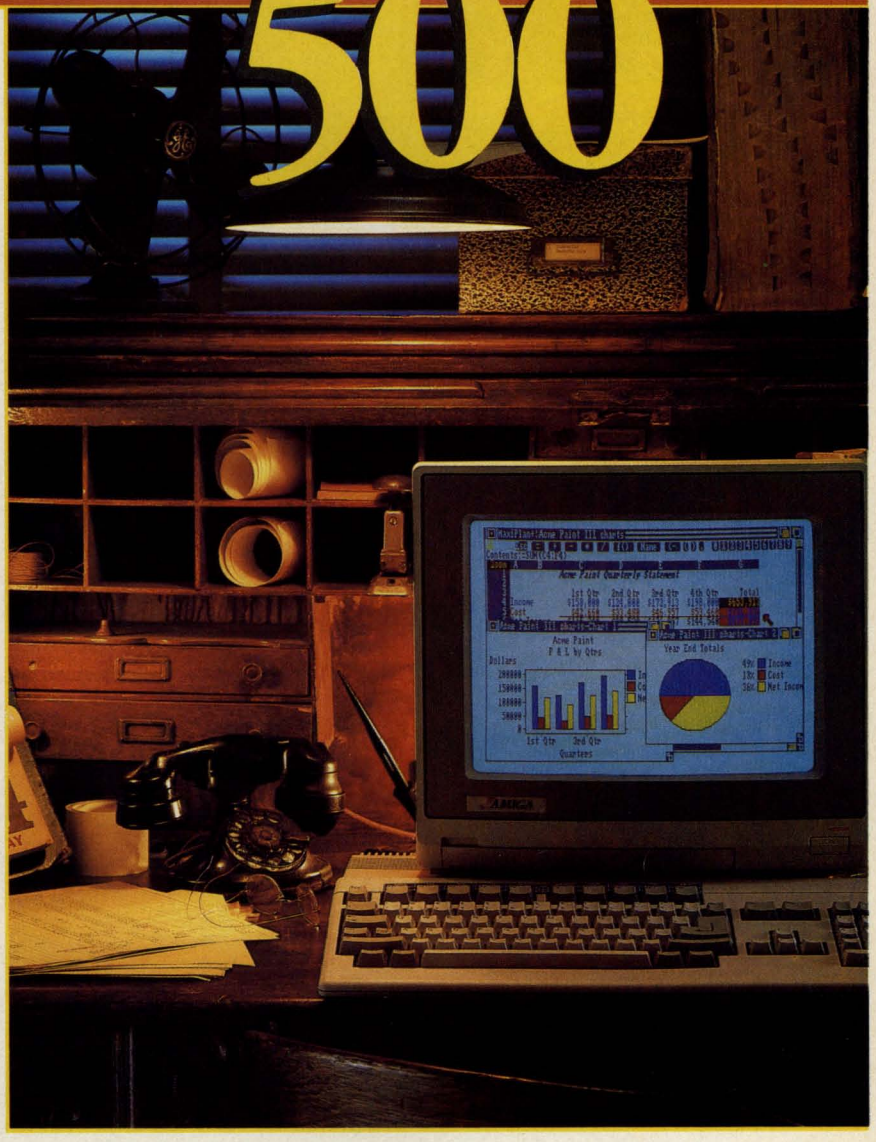
D.M.

MAXIPLAN 500

MaxiPlan 500 is designed for a 512K memory environment without sacrificing any of the features which makes MaxiPlan the most powerful and easy-to-use spreadsheet program for the Amiga. Named Spreadsheet of the Year for 1986 by a poll of Amiga Users Groups, MaxiPlan will soon become your choice for spreadsheet analysis, database management, and business graphics.

For more advanced spreadsheet analysts, **MaxiPlan Plus** is available with a Macro Language facility similar to Microsoft Excel. Over 95 Macro Functions allow the creation of mini-programs to automate spreadsheet activities.

As your dealer about MaxiPlan 500 and MaxiPlan Plus as well as these other programs from Oxxi.



Nimbus — Cash Basis Accounting System for Small Businesses

Customers and vendors are taracked by name, rather than by number. Pre-defined invoices provide a summary of customer account aging. Pop-up mini menus guide the user through each account activity. Nimbus is for the small business person who does their own books and hates learning about formal accounting systems.

Benchmark Modula-2: Software Construction Set

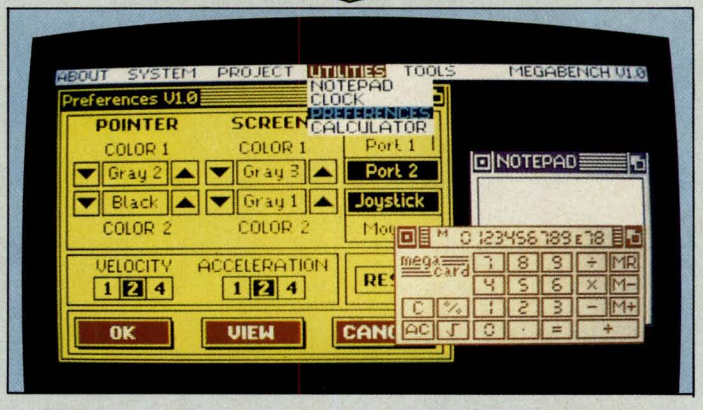
Integrated Compiler, Editor and Linker. Compilations of densely packed code averages 10,000 lines per minute with burst speeds of 30,000 lines per minute. Add on libraries include: "C" Language Standard Library, Simplified Amiga Library, and Graphic Image Resource Library.

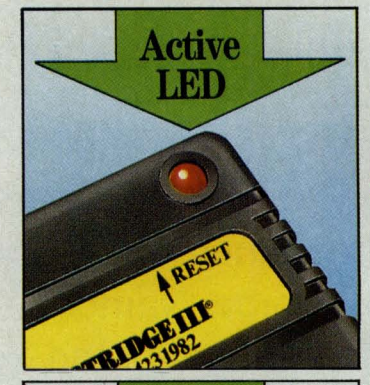
Maxiplan 500	U.S. List £149
MaxiPlan Plus	U.S. List $199
Nimubus	U.S. List $149.50
Benchmark Modula-2:	U.S. List $199
Add-On Libraries (each)	U.S. List $99

Oxxi inc.
P.O. Box 4000
Fullerton, CA 92634
(714) 999-6710
(714) 999-1045 (FAX)

Precision Distribution
Precision Software Ltd. 6 Park Terrace, Worcester Park, Surrey KT4 7JZ
Telex: 8955021 Precis G Fax: 01-330 2089
Phone for our catalogue: 01-330 7166

KEEP IT SIMPLE!

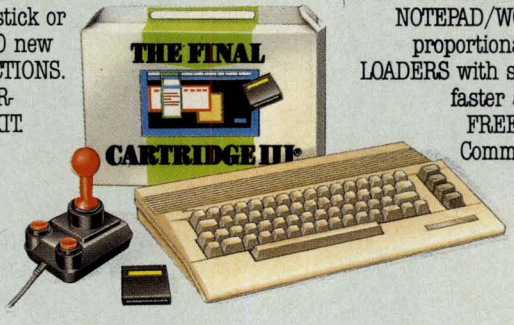




THE FINAL CARTRIDGE III®

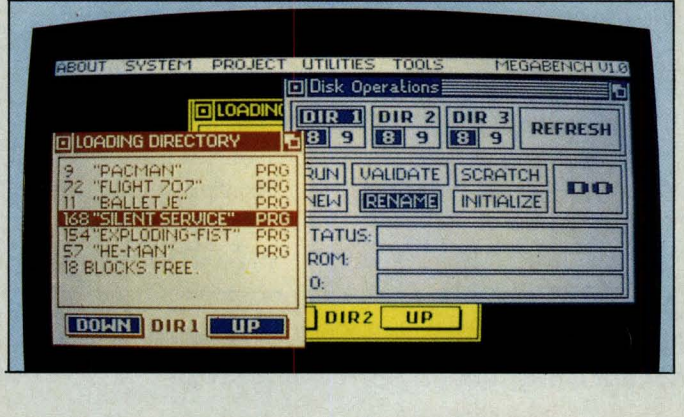
A POWERFUL 64K ROM BASED OPERATING SYSTEM FOR THE C64 AND C128

Easy to use WINDOWS and PULL DOWN MENUS allow you to select with either mouse, joystick or keyboard more than 60 new COMMANDS and FUNCTIONS. Various PRINTER-INTERFACES, a BASIC TOOL-KIT



Comfortable ML MONITOR including 1541 drive access and sprite-editing, a NOTEPAD/WORDPROCESSOR with proportional characters, 2 DISK LOADERS with speeds, up to 15 times faster and a state of the art FREEZER. Transform your Commodore into a complete new - AMIGA LOOK ALIKE - system.

WINDOWS



THE FINAL CARTRIDGE III®

The high-resolution bit mapped windows are selected from a menu bar. An unlimited number of windows can be open on the screen at the time. The windows can be freely moved on the screen.

The following windows are already implemented in ROM:

PREFERENCE WINDOW
Selects: mouse port, joystick port, mouse speed, screen colours, pointer clours, keyboard click, keyboard repeat.

CALCULATOR
Complete simulation of a LCD-calculator. Input either with mouse, joystick or keyboard. The numeric key-pad of the C128 can be used in C64-mode.

NOTE PAD
Easy to use wordprocessor with proportional characters enables you to store and print small notes, letters, etc.

DIRECTORY WINDOWS
Enables you to open directories from different disks and drives, sort and print directories.

DISK WINDOWS
Load, Run, Rename, Validate, Scratch, Initialize, Fast format disks.

TAPE WINDOW
Activates fast and normal modes.

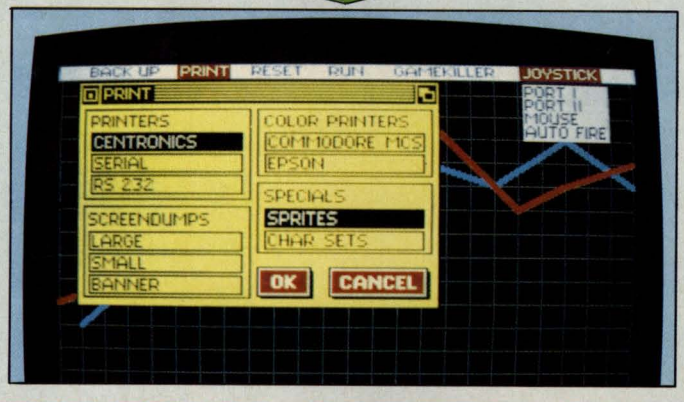
PRINTER WINDOWS
Select different printers, such as Commodore serial, Centronics, RS 232, Colour printers.

REQUESTER WINDOWS

DISC BASED USER WINDOWS

CLOCK
Real Time Clock, with Alarm.

FREEZER MENU



THE FINAL CARTRIDGE III®

Innovative hardware, combined with smart software, allow you to freeze and continue every well-known C64-program.

Freezer options include:

CENTRONICS/SERIAL/RS 232 SCREENDUMPS

● Full A4 printing ● Variable printsize ● Colour printing ● Sprite printing ● Reverse printing ● Colour changes.

GAMEKILLER

● Kills sprite to sprite ● and/or sprite to background collision ● Can be started at any point in your game.

AUTO FIRE

● Transforms a normal joystick to an advanced auto fire engine.

JOYSTICK PORT CHANGER

● Never blow up your computer again by changing joystick ports while the C64 is running.

BACK UPS

● Disk to disk ● Tape to disk ● Disk to tape ● Back up files are packed and reloadable without the Final Cartridge III ● 60K in 15 sec. (disk) ● Exits to Monitor or Basic.

ML MONITOR

Comfortable ML monitor.
Does not reside in memory.
Functions include:
● Scrolling up and down ● 64K ROM/RAM access ● Sprite editor ● Character editor ● Drive monitor ● Fast loading and saving ● Printer driver.

PULL DOWN MENU

THE FINAL CARTRIDGE III®

Almost all commands and functions that are not activated by windows can be selected from a menu bar, which appears on top of the screen after pressing the fire button, either in Basic or from the freezer. The following Basic Toolkit and keyboard extra's are included:

● Renumber ● Auto ● Delete ● Old ● Help ● Kill ● Find ● Replace ● 24K extra RAM for Basic ● Append ● DAppend ● DSave ● DOS ● Monitor ● Drive monitor ● Sprite editing ● Centronics interface ● Fast format ● Low Res screen-dumps ● Plist ● Scrolling up and down ● Stops and continues listings ● Pro-grammed functionkeys ● Packer/Cruncher ● Hex to decimal conversion ● Pokes, syscalls and variables may all have Hexadecimal values ● Trace, Dump, Order, Mem.

FINAL CARTRIDGE is a super powerful Utility/Backup Cartridge to give your 64/128 **AMIGA LOOK-A-LIKE SCREENS** Plus backup power and unmatched Toolkit!

When reviewing **FINAL CARTRIDGE III, Comodore Computing International said,** "This product is so versatile, so easy to use, it deserves the highest commendation. If you want probably the best utility around check out **FINAL CARTRIDGE III**."

ONLY £39.99 POST FREE

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

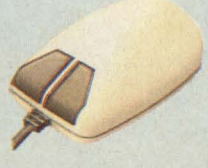
HOW TO ORDER . . . .

BY PHONE	BY POST	BY PRESTEL/FAX
0782 273815 24 hr Credit Card Line	Send cheques/POs made payable to 'Datel Electronics'	Prestel Pages # 258800004 Fax Orders 0782 264510

DATEL ELECTRONICS

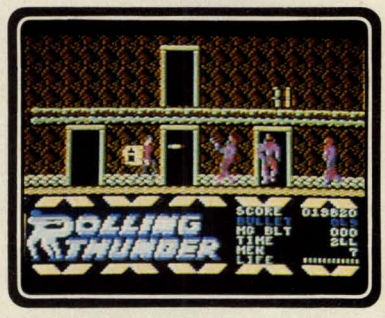
UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT. TELEX:

SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

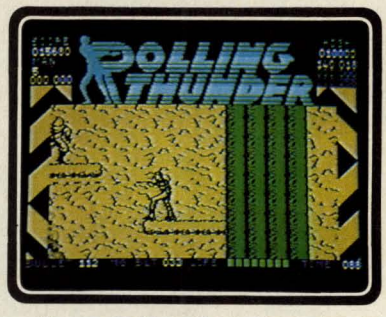


ROLLING THUNDER™

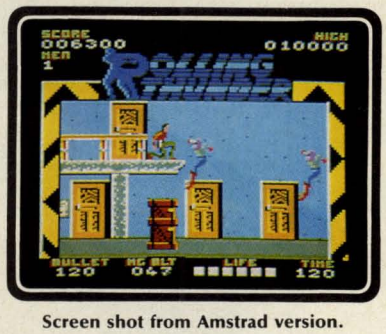
namco



Screen shot from CBM version.



Screen shot from Spectrum version.



Screen shot from Amstrad version.

Have you got what it takes.... ....to be an RT undercover cop?

CBM 64/128 £9.99t, £11.99d
SPECTRUM 48K £8.99t
AMSTRAD £9.99t, £14.99d
ATARI ST £19.99d
AMIGA £24.99d

U.S. GOLD®

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

1571 FIX ROM

The 1571 fix ROM makes the following modifications to the Commodore 1571 Disk Drive operating ROM. The original 1571 ROM number is 310654-03. The 1571 FIX ROM had the designation "DISK 72" or number 310654-05.

1. The Set Overflow flag was not disabled when exiting the 1571 controller. This is the cause of many seemingly random and difficult-to-reproduce problems. This particularly explains most of the Relative file problems.
2. TSTATN caused 'DEVICE NOT PRESENT' errors because the IRQ source was never cleared. This has been fixed.
3. The BAM swap bug. When all the buffers are allocated by the application, the DOS frees up the BAM buffer by marking it out of memory. When it was reread it would also reread the BAM for side one. If the side-1 BAM was 'dirty', it would be corrupted. The fix uses a new RAM location, $1B6 for a swap flag, and rebuilds the side-1 BAM upon a reread. This usually occurs with multiple files open and sectors being allocated on both sides of the disk.
4. Previously BAM allocation on side one would cause the BAM image to be written every access. This has been fixed.
5. SAVE-0 (SAVE with replace) is fixed. The variable NODRV is now a 16-bit addressable variable, and the STLBUF routine steals the buffer locked by drive one. Original 1541 bug.
6. Previously an active collect in 1541 emulation mode would write a zero to the double sided flag in the BAM. This has been fixed.
7. Applications which addressed tracks beyond 35 (on any side) previously used incorrect bit cell densities because the table TRKNUM only listed up to track 35. The tables TRACKN and WORKTABLE replace TRKNUM and WORKTBL, respectively, and extend the tables to track 40. Same situation on 1541's.
8. A 1541 ROM revision changed the variable TIM from $3A to $20 which resulted in problems for some applications. It is once again $3A, like the original (-05) 1541 ROM.
9. USEDTS returned a 'BLOCK NOT AVAILABLE' status when the number of blocks free was equal to 3. This has been fixed.
10. Previously during a BURST GCR FORMAT the activity led was not activated. This has been fixed.
11. The 1571 BURST LOAD routine would not load 'Locked Files'. This has been fixed.
12. Previously while loading files using the BURST LOAD routine, retries were not performed. This has been fixed.
13. Motor acceleration time for the MFM controller was too long, which affected performance when reading and writing in MFM format. This has been fixed.
14. Previously determining whether a diskette was double-sided or single-sided GCR would take too long due to valid sync pulses found on 'flippy diskettes' and MFM diskettes. This has been fixed.
15. SPINP interrupts from SP (fast serial input) were not enabled properly. This has been fixed, but has no affect on the operation of the serial bus.
16. Previously if a copy was performed addressing drive one, the error channel would return status '00,0K,00,000'. This has been fixed.
17. Previously the ROM test did not check the first page in ROM memory. This has been fixed.
18. The ROM checksum at $8000 and $8001 is now $23, $CO.
19. The ROM signature at $C000 is now $D3.

Price: £24.95 Contact: UK — Financial Systems Software. 0386 750217.

G.T.COMPUTERS

WALES LARGEST INDEPENDENT RETAIL OUTLET

- PART EXCHANGE WELCOME
- ALL PRICES INC VAT:EXC P&P
- ALL COMPUTER REPAIRS UNDERTAKEN
- USED COMPUTERS AND ACCESSORIES WANTED

*** USED ***		*** NEW ***	
SPECTRUM 48k	£ 39.99	AMIGA A500 inc MODULATOR	£499.00
SPECTRUM 48k PLUS	£ 49.99	AMIGA 1 MEG DISK DRIVE	£189.00
SPECTRUM 128+2	£ 89.00	AMIGA MODULATOR	£ 19.99
COMMODORE 64 inc REC	£ 99.00	COMMODORE 64C	£150.00
MPS 803 PRINTER	£119.00	COMMODORE 64CONNOSUER	£189.00
COMMODORE 128 inc REC	£140.00	COMMODORE 128	£189.00
COMMODORE 1541DISC DRIVE	£ 99.00	COMMODORE 128D	£359.00
MPS801 PRINTER	£ 79.99	1541C DISC DRIVE	£150.00
MPS803 PRINTER	£119.00	NEOS MOUSE @ CHEESE	£ 19.99
AMSTRAD 464 inc MOD	£ 99.99	1571 DISK DRIVE	£189.00
AMSTRAD 464 inc COL MON	£189.00	AMSTRAD PC1512DC	£749.00
AMSTRAD 6128 inc MOD	£199.00	AMSTRAD 6128 inc MOD	£279.00
AMSTRAD 6128 inc COL MON	£279.00	AMSTRAD 6128 inc COL MON	£360.00
AMSTRAD PCW 8256	£350.00	AMSTRAD PCW 8256	£429.00
AMSTRAD PCW 8512	£450.00	AMSTRAD PCW 8512	£529.00
DMP2000 PRINTER	£110.00	AMSTRAD PC1512SM	£479.00
BBC MODEL B SERIES 7	£199.00	AMSTRAD DMP2000	£149.00
BBC MODEL B inc DFS	£249.00	AMSTRAD DMP3000	£179.00
ACORN ELECTRON	£ 45.00	AMSTRAD DMP4000	£369.00
ATARI 800XL	£ 45.00	1050 DISC DRIVE	£120.00
ATARI 130XE	£ 79.00	CUMANA 1meg ST DRIVE	£145.00
ATARI 520STM	£189.00	ATARI 520STM	£249.00
ATARI 520STFM	£310.00	ATARI 520STFM	£359.00
ATARI ½meg DRIVE	£ 89.00	ATARI ½meg DRIVE	£139.00
ATARI MONO MONITOR	£ 99.00	ATARI MONO MONITOR	£139.00
1 ONLY AMIGA A1000	£699.00		

NEW

20% OFF R.R.P ON ALL SOFTWARE

ATARI ST / AMIGA / COMMODORE 64 / PLUS4 / C16 / SPECTRUM

CHEQUES MADE PAYABLE TO :G.T.COMPUTERS LTD
21 CHARLES STREET NEWPORT GWENT TEL.(0633)216654
133 CITY ROAD CARDIFF,GLAM. TEL.(0222)483038

WE DONT SELL CHEAP COMPUTERS!
WE SELL OUR COMPUTERS CHEAP!!

THE SOUND DIGITIZER
– FOR C64 & 128

HAVE FUN WITH YOUR OWN 'COMPUTERPHONIC' WORKSHOP ...

- SIMPLY CONNECTS TO YOUR PERSONAL STEREO, HIFI, RADIO ETC.
- REPLAYS THROUGH TV SPEAKER – NO EXTERNAL AMP REQUIRED.
- DIGIBASIC SOFTWARE LETS YOU EDIT & CUSTOMISE SOUNDS.
- VARIABLE RECORD & PLAY SPEEDS.
- 14 SECS MINIMUM RECORDING TIME.
- DISK SOFTWARE INCLUDED.

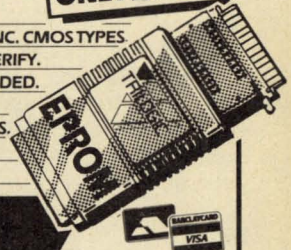
ONLY £19.99

EPROM BLOWER
– FOR C64 & 128

A PROFESSIONAL QUALITY PROGRAMMER FOR ONLY £69.95

BLOW YOUR OWN WITH THIS QUALITY PROGRAMMER.

- PROGRAMS FROM 2K TO 36K EPROMS INC. CMOS TYPES.
- READ, TEST, COMPARE PROGRAM, & VERIFY.
- ZERO INSERTION FORCE SOCKET INCLUDED.
- THROUGH EXTENDER INCLUDED FREE.
- SELECTABLE PROGRAMMING VOLTAGES.
- USEFUL EDITOR/MONITOR INCLUDED.
- SAVE & LOAD EPROM DATA ON DISK.



MAKE YOUR OWN SWITCHABLE PLUG-IN KERNAL OR BASIC ROMS.

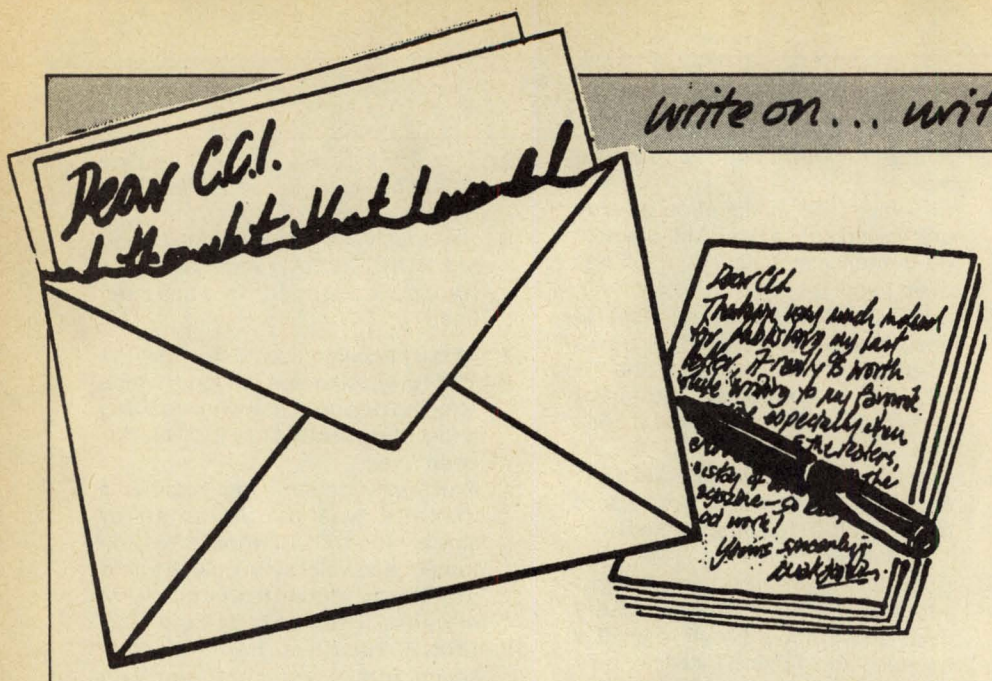
OUR 4-WAY SWITCHABLE KERNAL BOARD, WITH 28 PIN SOCKET FOR 16/32K EPROMS, AND FOUR POSITION SWITCH IS IDEAL FOR MAKING YOUR OWN TURBO ROMS ETC. PLUGS INTO EXISTING KERNAL OR BASIC SOCKET. ONLY £7.99

EPROMS: NEW FULL SPEC: 8K £4.49 16K £4.95 32K £6.95
EPROM ERASING SERVICE: £1.00 PER EPROM INCL. POSTAGE

TRILOGIC
Trilogic Dept. CC1, Unit 1,
253 New Works Road
Bradford, BD12 0QP.
0274 691115

FAST MAIL ORDER SERVICE · PROMPT DESPATCH · ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK GUARANTEE ON ALL ITEMS. PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC BY POSTAL ORDER, ACCESS OR VISA. ADD £1 EXTRA FOR EXPORT ORDERS, PAYMENT IN STERLING ONLY PLEASE.

write on... write on... write on...



Dear CCI
I just feel I have to write about piracy. I can, if I try, understand the pirates point of view and I agree software is too expensive. But do you really think pirating a game and then sell it to your friends is any better. Can't you think of all that trouble companies, programmers, computer mags etc. has getting these games good and cheap. Maybe the price cannot be lowered due to programmer's payments, advertisements and hundreds of other expenses? And then, pirates, all you really do then is make trouble for the companies. And that again will raise the prices, so that the companies may survive. Is that all you bloody pirates think of? Getting money and games, and let the honest and innocent pay? If you pirates keep this slimy business going the smaller companies will have to give up. We can already see clear tendencies of that. And the small companies are swallowed up by big companies. And those big com aniescanproduce anyrubbish they want there's room to compete! Just like Rockerfeller did with oil, Vanderbilt with railways. And in the end, this will harm the pirates too. If we keep losing those small companies we will lose a rich resource of games, and it will all be controlled by the giants! Think, pirates, think before you STEAL your next game!
Lars Dybwad
Norway
P.S. Now to the bright side: CCI is just getting better and better every month. You have already beaten Zzap 69, CU etc. The only thing I await with held breath, if you can continue beating yourself!!

Dear Lars,
Rockerfeller... Vanderbilt... Yes, they were Robber Barons who treated people as chattels and raped the American environment in the free booting 19th Century. It's a little hard to compare today's software giants to them but you're right that we don't want to lose the valuable resources of small companies because of selfish pirates.

Thanks for the compliments about CCI but don't 'hold you breath' too long! And 'beating ourselves'? Since our rhino whip was stolen we've given up that sort of Kooky activity!

Gudday from Australia
CCI is rad, fab unreal. I've just got back from the local newsagent and purchased the November addition. I totally agree with "Christopher Smith, November" about a play page. I am a software addict but unfortunately software isn't readibly available, due to living in a small country town in Australia. Keep up the great work.
Matthew Walters,
N.S.W.
P.S. I don't want to appear forcefull but could you send me a software diskette like Stealth Fighter or Pirates. please?

Dear Matthew,
As you see Tony Horgan anticipated you and we've got his hints page in now. You certainly have got some real Aussie nerve, asking for some free software. Still it is the 200th Anniversary of your beautiful country (yes, we know the Aborigines wouldn't agree)so a Microprose diskette game is winging its way to you.

Dear CCI
COMPILERS — MARCH ISSUE
I read with interest John Ransley's review of compilers for the CBM 64.

Our BLITZ compiler is reported as being available only on disk. In fact we offer a tape version at £14.95 and a disk version at £19.95.

We also offer a 128 version (which is disk only) for £29.95; this version allows a suite of programs to be compiled, with or without sharing of variables (there is even a 64 version available to order with similar features — £29.95).

The price of Stack's version of Blitz (Mini-Blitz as we call it) was quoted as £4.9 from Meedmore. According to Meedmore's own current advertising the price is actually £15!

I hope you will be able to publish these corrections in the next issue of your magazine.
Yours Truly,
Peter Calver, Supersoft, Winchester House, Canning Road, Wealdstone, Harrow, Middlexsex HA3 7SJ.

Our humble apologies. We certainly should have checked our facts more carefully about Supersoft's Blitz. The Meedmore Stack Blitz price should have read £14.99 not £4.99. Another reason to apologise.

Dear C.C.I.
I've been a Plus 4 owner for ages and before that I had 2 other Commodore computers which caused me no trouble. I want to change my computer because I've always had a commodore computer I think a C64 would suit me, but I looked through your magazine and I couldn't find how much one will cost. So please could you tell me?
Yours Sincerely
Andrew Deeprose. Hastings

Dear Andrew
64C's cost around £150.00 now. However, you could do worse than look in the classified advertisements at the end of CCI. There are often 64's for sale there.

Dear CCI,
While reading through your February issue, I came across a letter from someone who'd had a little difficulty in getting started with their computer. I have recently run a series of adverts in one of the so-called 'general computer magazines' and have found people buying computers costing up to £300 without the faintest notion of how to program them. The adverts were for a BASIC tutorial course, consisting of seven units, which include an introduction both to programming and to the ancient, but in my view, important technique of flow-charting. The price per unit is only £2.50 and for that, for example, in the first lesson you get about 15 pages of information — all example programs include flowcharts so that they are easy to follow.

If any of your readers are interested they can contact me at the address below or see the classified advert. All they need to send is a S.A.E. and I'll send them the details.

Hope the above is of interest, the price of the lessons is to pay for the paper, electric and the adverts, as some people charge to advertise.
Yours faithfully,
D. P. Whiteside,
171 Great Gates Road, Rochdale, Lancs. OL11 2DP.

Dear D.P.W.
Sounds like a good, cheap idea. Any readers interested please contact.

write on... write on... write on... write on... write on...

Dear CCI,
Is it possible for you to supply me with a Text/Demo disc for the Commodore 1551 disk drive.

If not, perhaps you can advise me where I might obtain a copy.
Your truly,
K. Lomax,
27 Clarence Avenue, Widnes, Cheshire WA8 9EL.

Dear K. Lomax,
We don't supply anything except what you find in these pages. If you contact Financial Systems Software, Anbrian House, St. Mary's St., Worcester WR1 1HA, Tel: 0905 611463, they should be able to help you.

Dear CCI,
Having recently acquired a Commodore Plus 4 computer I set about finding a suitable magazine. Out of the many on offer I chose yours as I find it interesting and easy to understand.

However, I was a bit disappointed that none of the games reviewed were for the Plus 4, nor were there any adverts for it.

I should appreciate your advising me of any addresses (local to this area or otherwise) for writing to for a catalogue of games, prices and distribution charges as I have endeavoured to find a shop supplying games in this area to no avail.

Looking forward to hearing from you as soon as possible.
Yours sincerely,
C. Forrester,
11 Hawthorn Close, Ketley Bank, Telford, Shropshire.

Dear C. Forrester,
It is a little late to start on the Plus 4 scene, don't you think? But do not despair there are lots of C16 games you can get hold of — mostly through advertisements in CCI, if not computer stores. All C16 games run on your Plus 4.

Dear CCI
Being a reader of your good monthly magazine Commodore Computing International I have trouble in finding programs for the 64 Commodore computer. When I had a Vic20 I purchased a game of backgammon and I was wondering if you could tell me from whom could I purchase the same game for the Commodore 64, and if not could one of your readers help me out with my problem. In February's edition there is an advert by Robtek for Championship Backgammon, but when I phoned them to ask about it they said it was for the Commodore Amiga computer, but there was nothing in the advert saying so. So if any of your readers can help me out with my little problem I would be grateful indeed. If the game of backgammon could be in DISK form that would be better, and I'm prepared to pay for it. I very rarely write to complain, but most of your magazine deals with the advertisement of the Amiga computer. Why not bring out a separate magazine for the Amiga, and leave the Commodore Computing International for the Commodore 16, 16/4, 64, and the 128. I thank you.
Yours sincerely
Christopher Hazel

Dear Christopher,
*Probably a CCI reader will know where you can get a 64 Backgammon - they seem to know everything! Is accuracy disappearing from the planet? 'Most of your magazine deals with the advertisement of the Amiga'? We used to run a special Amiga section which, including advertisements, never amounted to more than about a third - certainly not 'most' of the magazine. Now there is a special magazine for the Amiga - **Amiga User International** - we publish less Amiga material in CCI. However we know that plenty of 64 owners still want to know what is going on in all the Commodore machines including the Amiga, so we will continue our coverage of the Amiga, even if at a lower level than before.*

Dear CCI
'The Plus/4, what a micro that could have been'. These are the very words that made me write to you. I for one don't want to hear those words in say, 2 year's time, do you?. Well I have decided to make the 'C.P.B.T.C.' Club, which stands for 'CBM Plus/4 Best Times Club'. The words speak for themselves. I already have 10 members but I want all of you to know of this club, all over the world. My club has a library of information, such as this, which will make some of Plus/4 owners happy, the new CBM 1351 mouse works on the Plus/4 in joystick mode, and if you want it in mouse mode then the code addresses will need to be changed on the program included, and all that's needed is a good joystick adapter and of course the mouse itself. I would like to hear from you, by letter or by telephone which is 01-291 5018 between evenings - 4 till 5 and all weekends. I hope CCI publish this letter to help me get 'C.P.B.T.C' Club get off the ground.
Yours thankfully
S. Steven
190 Stanstead Road,
Forest Hill, London SE23.
P.S. Please print this letter.
P.P.S. If you do (please) don't forget my full address.
P.P.P.S. I sent off £20 to CCI for a lightpen and I found the free game great.

Dear S. Steven,
Anyone who invents a 'C.P.B.T.C.' club deserves to get the letter printed. Glad you liked the free game. Send us something you've done with the light pen. We might print that too if it is good enough.

Hi Friends
This is a letter from Dave..yup, that's the fab letter writer from February 1988. I thank you for publishing my letter, but now I'm nearly drowning in the post every day. However, the postman looks at me as if he's in love with me. Bet the letters got his wage up by 364 percent.

Coming to the point, I have a question to ask your readers. It sez..'Who has a copy of the two Amiga manuals to spare for me? I would be very happy if you'd help me' and came in a letter from an English soldier stationed in Germany. He stated he bought the machine there, but they gave him German manuals with it.

So if you already own a few Bantams and think you can well do without the original manuals that came with ya computer, then help him, please.
Michael Neale
C/o Naafi 14006
Muna Kaserne, 4270 Dorsten
Germany

By the way, CCI, I thought I was about to receive an Award (and a T-shirt), but I haven't seen a thing (or was that the reason the postman was smiling?).

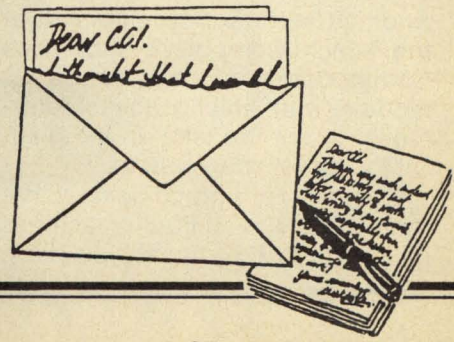
However, you're now member †1 of A&AUG. If there are any people who want ot join a club with just as much (allrite, a bit less) heart for computing people as CCI, then you can still write to me.

Knew I forgot sometin'. I wanna be a subscriber, so please send me a cheque for 1 year's payment to CCI.

I want to make my apology, 'cause I didn't respond to the Memory Expansion arrangement you were to fix for me. Geee....out with it, y'hear. O, allrite CCI!

I have bought it in Germany now. Sorry for asking yo' peepol!
Yours forever, (or was that another phrase?)
Dave Engbers
Kemperweg 34
3052 VJ, Rotterdam, Holland

Dear Dave,
We feel like giving you another prize for sheer nerve. Why don't you buy the manuals for him. We thought the Dutch canals had gold ingots bumping around on the bottom that peaple fished up in their wooden sabots.... By the way, we don't pay people to become subscribers - they pay us. We'll let you have a subscription at a special price, say five grand - cash only please. The reason we haven't sent you the Tee shirt yet is that we are having a special one made with a big enough hole for your head.



The Which Computer? Show.

Janet Menzies fought her way to the CBM stand to find out where Commodore is going in the business world.

Commodore literally had the Works on offer at the Which Computer? Show at the National Exhibition Centre, Birmingham.

The Works is the Brown Wagh software package for the recently launched Amiga 2000. It's an appropriate title because The Works does just about everything you want bar take shorthand and make the tea (but they're working on it!)

Commodore presented the Amiga 2000 as the flagship of their range that will take them into every marketplace from the small business to the school.

The Amiga 2000 is already popular with specialist users like design studios and advertising agencies, who appreciate its excellent graphics. There is 3D and 2D graphics animation in 4096 colours, and users can add a Genlock interface to create in-house videos.

Tom Hart, Commodore's National Sales Manager for the Consumer Products Division says: "The Amiga is a very good computer in every way. Obviously the graphics are excellent, which makes it a leader in the games are, but look at the other applications.

"We have some excellent educational software for the Amiga for example, so the kids lucky enough to use it at home could well be finding it in their classroom as well. It just emphasises the all round nature of the model."

Another important development at the Which Computer? Show was Commodore's launch of its new PC models, with which it looks determined to try and take on the giant IBM's market stranglehold.

Commodore's proud boast is that their PC60/40 and 60/80 machines are not only IBM compatible but five times faster than ordinary IBM PCs. The two models are both fully IBM compatible.

The competitive thrust is pushed home with two more new introductions, the PC10 and the 20 model III Turbos. These again are high performance "quickies". There is a new motherboard which incorporates colour graphics, mouse, clock/calendar and XT hard disk interface.

We fought our way through the crowds at the Commodore Which Computer? Show stand to interview Dean Barrett, the newly appointed head of PR, and discover exactly how Commodore is planning to keep ahead of the business game.

Equipped with walkie-talkie and fending off any controversial questions he is clearly the right man to implement managing director Steve Franklin's aims for change. Franklin invisages a tailor-made technical training programme for the dealer network, combined with a new strategic marketing campaign . . . and, of course, higher sales targets.

Barrett invited us onto the stand's "rooftop patio" to introduce us to National Sales Manager for the consumer products division Tom Hart. First we wanted to know why Commodore had split into two divisions, business and consumer.

He pointed to the slow down in the home computer market which had caught many rivals napping and commented: "We have to be more business oriented than in the past. We have rearranged our marketing system to take this into account. But there is no way we are going to forget our home consumer market because of the developing business area."

He then reminded us that the daddy of them all, the Commodore 64 home computer is still the world's best seller. "But," said Hart, "it is interesting to see that a recent survey showed that nearly half of all home computer users are looking to upgrade their equipment at the moment."

That's obviously where the new Amiga comes in." But at about £500 minimum we had to ask how Commodore came to terms with pricing their new baby.

Barrett agreed: "The pricing is a departure for us. It is expensive as a home computer — I don't think anybody would pay that just to play games."

But both Barrett and Hart feel that the days of rapidly descending computer prices are over, and it is time the consumber adjusted to a more stable price, at least for his hardware.

Said Hart: "For a long time now the consumer has had the expectation that the end price of computer products would continue to fall as technology improved, as it has done in so many other areas — TV and video being an obvious parallel.

"This may have been true of the initial development phase. Then the image was probably bolstered by the discounting situation in the components supply market, where manufacturers had overstocked. This situation is now over and we feel the market is reaching rock bottom."

According to Barrett and Hart the high margins raked off at the different distribution levels in the U.K. mean that computers will never be as cheap as in Europe, where margins are much lower.

However they emphasised that price has never been the reason why people have chosen to buy Commodore computers. It is the quality and reputation of CBM's products that have generally been the deciding factors. They see this as true of the Amiga and PC range as of the everlasting 64.

J.M.

DIGI VIEW

DELIVERS ULTIMATE GRAPHICS POWER

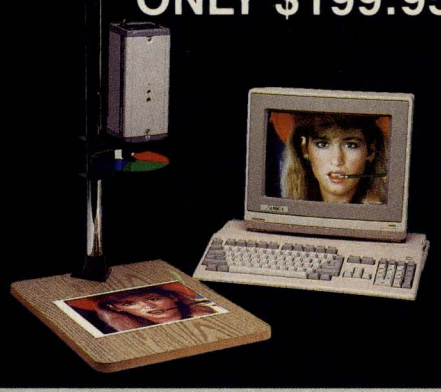
Bring the world into your Amiga with Digi-View, the 4096 color video digitizer. In seconds you can capture any photograph or object your video camera can see in full color and with clarity never before available on a home computer. Digi-View's advanced features include:

- Dithering routines give up to 100,000 apparent colors on screen
- NewTek's exclusive Enhanced Hold-and-Modify mode allows for exceptionally detailed images
- Digitize images in any number of colors from 2 to 4096
- Print, animate, transmit, store, or manipulate images with available IFF compatible programs
- Digitize in all Amiga resolution modes (320x200, 320x400, 640x200, 640x400)

"Digi-View sets new standards for graphics hardware"-*InfoWorld*

Digi-View is available now at your local Amiga dealer or call:

ONLY $199.95



PAL VERSION NOW AVAILABLE

NEWTEK INCORPORATED

HB Marketing Ltd.,
Pier Road, North Feltham Trading Estate,
Feltham, Middlesex, TW14 0TT
Tel: 01-844 1202 Telex: 934689 HABA G

GORDON HARWOOD COMPUTERS

OFFICIAL COMMODORE BUSINESS CENTRE

AMIGA A500

All our Amiga A500 machines contain the following standard features (unless otherwise stated)

- 1 MEG DISK DRIVE
- STEREO SOUND
- 4096 COLOURS
- MULTI-TASKING
- BUILT IN SPEECH SYNTHESIS
- MOUSE
- TWO MANUALS
- OPERATION SYSTEM DISKS

Pack 1 GAMES SYSTEM

AMIGA A500 plus . . . .

Defender of the Crown - Worth £29.95
T.V. Modulator - Worth £24.95
Deluxe Paint - Worth £24.95
Goldrunner - Worth £24.95
Starglider - Worth £24.95
Amiga Tutorial Disk

£469

Pack 2 HARWOODS "DUALPACK" DEAL

AMIGA A500 (Pack 1) supplied with COLOUR MONITOR

(Please note, this pack does not include a Mouse)

£699

Pack 3 BUSINESS SYSTEM

AMIGA A500 plus . . . .

- COMMODORE 1084 COLOUR MONITOR
- COMMODORE MPS 1200 PRINTER
- "THE WORKS" INTEGRATED BUSINESS PACKAGE WITH COMBINED WORD PROCESSING
- SPREADSHEET AND DATABASE
- "TRANSFORMER" PC EMULATION PROGRAMME

£799

Pack 4 AMIGA A500 with T.V. MODULATOR

£429

LIMITED OFFER

AMIGA 2000

WITH FREE 1 MEG INTERNAL DRIVE
PHONE FOR LATEST PRICES

COLOUR MONITORS . . .

Now with FREE Connector Lead to fit most computers . . .
Please state type when ordering e.g. Acorn Atari, Commodore, IBM, Sinclair etc. etc.

- 14" COLOUR-MEDIUM RESOLUTION
- PLUGS STRAIGHT IN (To Amiga and most other computers)
- GREEN SCREEN SWITCH
- STAND AVAILABLE
- TILTING FACILITY
- STEREO SOUND (Philips only)

COMMODORE 1084 MONITOR	£249
PHILIPS CM 8833 MONITOR	£269
COMMODORE MPS 1200 PRINTER	£199
"THE WORKS"	£99.95
TRANSFORMER PC EMULATOR	£39.95

10 - 3½" DS/DD BLANK DISKS in FREE Plastic Library Case with Labels –
ONLY £13.00 Call for quantity discounts

COMPARE OUR SERVICE!

- FULL 12 MONTH WARRANTY - If any goods prove to be faulty within 30 days of purchase they will be replaced with A NEW UNIT. For the remainder of the Guarantee Period, all warranty repairs will be made FREE OF CHARGE!!
- COLLECTION FACILITY - Any faulty computer or monitor will be collected from your home FREE OF CHARGE within Guarantee Period!

ORDERING . . .
24 HR Credit Card Order Line
FREE Postage
Add £5 NEXT DAY COURIER

12-36 Month H.P. Terms Available
– SUBJECT TO STATUS –

Please make Cheques/Postal Orders payable to:-
GORDON HARWOOD COMPUTERS

All prices include VAT & Postage and are correct at time of going to press. E. & O. E. Offers subject to availability.

WE ONLY SELL GENUINE U.K. SPEC. AMIGAS

Not Imported/Modified European Models

Don't forget - you can always visit our extensive showroom!

69 - 71 HIGH STREET
ALFRETON · DERBYSHIRE
Tel. (0773) 836781

Hi Investments

Series For The Amiga

AMIGA 5¼" DISK DRIVE 40/80 TRACKS

GIZMOZ

- "INDISPOSABLE PACKAGE" – 19 DESKTOP ACCESSORIES
- EXCELLENT SELECTION OF BUSINESS PROGRAMMING & PERSONAL TOOLS
- YOUR COMPUTER SAID OF GIZMOZ "....FOR MY DESK AT HOME I WOULD NOT DO WITHOUT IT."
- CONTAINS ICON MAKER/GRAPHIC PACKAGE/CALCULATORS/MEMO PAD/BLACK BOOK ETC
- ONLY £49.95

IBM COMPATIBLE RRP £169.95

PROMISE

- 95000 WORD DICTIONARY
- 18 WORD PER SECOND SPELLCHECKING SPEED
- FEATURES SPELL HELP, OPERATES VIRTUALLY ANY WORD PROCESSOR
- WILL EVEN CHECK PUNCTUATION ERRORS
- CREATES CUSTOMISED DICTIONARY
- £39.95

OMEGA FILE

- PROFESSIONAL DATABASE & MAILMERGE
- 200 CHARACTERS PER FIELD, 256 RECORDS
- 5000 CHARACTERS PER RECORD
- FULL SCREEN EDITING UP TO 32000 INDEXED RECORDS PER DATABASE
- INCREDIBLY USER FRIENDLY
- OPEN 2 DATABASES AT THE SAME TIME

JUST £49.95

DRUM STUDIO

- TURNS YOUR AMIGA INTO PROFESSIONAL DRUM TRACK
- INCLUDED 20 DIGITISED INSTRUMENTS
- 10 SONGS AVAILABLE WITH 100 PATTERN CALLS
- 5000 DIFFERENT SOUNDS AT THE SAME TIME
- SCREEN GRAPHICS FOR VISIBLE CONTROL ADJUSTMENTS
- ONLY £39.95

WINDOW PRINT

- POWERFUL UTILITY THAT ALLOWS YOU TO CAPTURE A SCREEN OR WINDOW IMAGE
- MANIPULATE/PRODUCE A FILE IN IFF FORMAT
- PRINT ANY SIZE COPY OR USE YOUR OWN PROGRAMS IMAGES
- INCREDIBLY JUST £24.95

HOME PUBLISHER

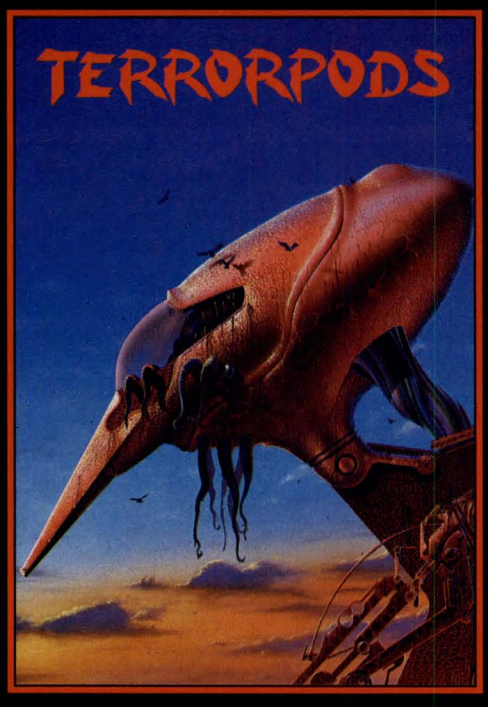
- POPULAR DESK TOP PUBLISHING
- PRODUCES HIGH QUALITY LAYOUT
- A FAST & EFFECTIVE WAY TO CREATE PROFESSIONAL DOCUMENTS
- 30 DIFFERENT FONTS
- DRIVERS FOR 8,9,16 & 24 PRINTERS
- 1ST WORD, DEGAS ETC COMPATABLE
- FOR ONLY £24.95

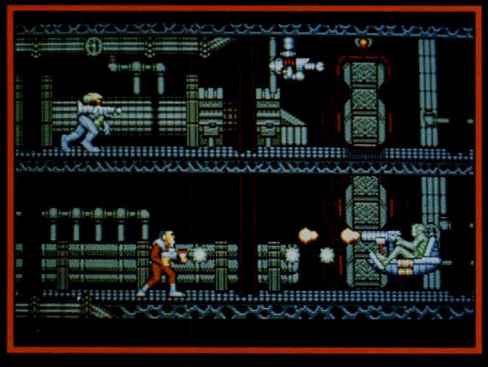
2 MEG RAM EXPANSION

- MORE SPACE FOR PROGRAM DATA STORAGE
- FASTER PROGRAM EXECUTION
- CAN BE EXPANDED TO 8 MEGABYTES
- AMIGA 500 INTERFACE AVAILABLE FOR £19.95
- £449.00

HI TEC

Hi Tec is distributed by Robtek Ltd.,
Isleworth Business Complex, St. Johns Road,
Isleworth, Middlesex TW7 6NL
Telephone: 01-847 4457





OBLITERATOR

You are Drak the Last of the Obliterators, a genetically enhanced and awesome fighting machine, bio-engineered for the execution of incredible tasks, the ultimate solution to the most cataclysmic of predicaments.

In the voids of Federation space an alien cruiser has materialised. It is a ship of sinister and foreboding power. Federation defences have been smashed, Earth lies exposed, there is only one hope and you are it!

Summoned by the Federation council, your assignment is to use a prototype matter transporter to infiltrate the alien cruiser. Armed with a particle beam disrupter, lasers and whatever the alien habitat can provide, you must cripple the alien vessel thus enabling its destruction.

What awaits? What technological perils and strange diabolic adversaries will try to thwart you in your mission?

Can you become Drak the Last of the Obliterators? Can you survive? Can you overcome such unthinkable odds?

AVAILABLE NOW

TERRORPODS

Its been a long watch . . . As the sun disappears over the horizon, the uninviting, grey bleakness of Colian becomes apparent. Following the intense heat of the day, the onset of night adds the bitterness of sub-zero temperatures to an already hostile environment, and the stark interior of the D.S.V. appears almost homelike.

Deep melancholy is suddenly smashed by the shrill scream of a siren. The status panel has gone crazy, an extraordinary array of lights flash uncontrollably. Good grief . . . what's happening?

Frantically, you turn to look at the command scanner, hunting through the mass of information before you, in a desperate attempt to decipher what has happened.

Your whole being freezes . . . It can't be! The Terrorpods . . .

AVAILABLE NOW

BARBARIAN

Can you become Hegor the famous dragon-slaying, monster-mangling Barbarian?

Are you the warrior who can enter the fearful realms of the underground world of Durgan, a world terrorized by the evil Necron?

Can you handle the adventure, the frenzied attacks, the hidden traps, the gruesome death dealing monsters? . . .

Your quest; to destroy the lair of the accursed Necron. Your prize; the kingdom's crown.

Your task is awesome! You must live on your wits, conquer your innermost fears, use every skill and weapon available to you.

Hideous perils await. Can you survive? . . .

Are you Hegor the famous dragon-slaying, monster-mangling Barbarian?

AVAILABLE NOW

Psygnosis
FREEPOST
Liverpool L3 3AB
United Kingdom
Tel. No: 051 236 8818
Fax: 051 207 4498
Telex: 629474

ACCESS VISA

OBLITERATOR	— £24.95
TERRORPODS	— £24.95
BARBARIAN	— £24.95
DEEP SPACE	— £24.95
ARENA	— £24.95
BRATACCAS	— £24.95
ARENA/BRATACCAS	— £29.95

All available for 512k colour, Atari ST, Commodore Amiga.

PSYGNOSIS

REVIEW

COLOSSUS MAH JONG

CDS

Cards, backgammon, chess, draughts, nine men's morris, connect four, snakes and ladders.... You name it and sit down on the other side of a table and I'll play it with you. Some years ago, I was given a Mah Jong set — 144 chunky little bamboo and ivory (O.K. plastic) tiles with carved and coloured symbols, neatly packaged into four wooden trays in a miniature chest of drawers.

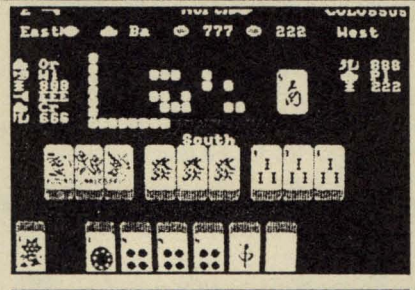
I'd heard of the ancient oriental game but never played it. Neither had any of my friends. After a few false starts, four of us sat down with the Mah Jong set, the rule book and a bottle of whisky. At the bottom of the bottle, the rule book was considerably more worn than the tiles but we'd got the hang of it. Mah Jong became a regular fixture in our social calendar.

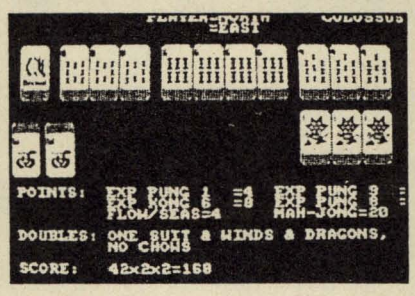
Like all the best games, Mah Jong is basically quite straightforward. The set consists of three suits (Bamboos Characters and Circles), numbered one to nine, three Dragons (Green, Red and White) and four Winds (North, South, East and West). All in quadruplicate — i.e. there are four "ones of bamboos", four "three of circles", four "green dragons" and so on.

In addition to the above, there are eight special tiles — four Flowers (Plum, Chrysanthemum, Orchid and Bamboo) and four Seasons. These play no part in the game itself — if you pick one up you keep it face up in front of you and draw another. They do featgure in the scoring, of which more later.

Playing Mah Jong is not unlike playing Rummy. The object is to collect sets of three similar tiles (Pungs), four of a kind (Kongs) or runs in the same suit (Chows). You start with thirteen tiles and, by picking up and discarding (distiling?), aim to end up with four sets of three or four and one pair. You don't discard on the final go and if you get a Kong you draw an extra tile. The most recently discarded tile can be claimed by any player to complete a Pung or Kong or by the player whose turn it is next to complete a Chow.

Still with me?





It is the scoring that causes Mah Jong instruction books to wear out so quickly. You acquire so many points for each Pung and Kong — more or less depending on the particular tiles and whether you claimed a discard to complete the set — and so many for each Flower or Season. There are various combinations which permit you to double your score and there are various bonuses for going Mah Jong (completing your hand) in special ways. The player who goes Mah Jong collects payment from the others equivalent to his Own score. Whether this be in pence, pounds, matchsticks, gold bars or oilwells depends on the school. The other settle up according to the differences in their scores. To make things more interesting, each player is allocated a wind and East always pays or receives double.

"The tiles in your hand are realistically presented in high resolution 3D graphics on the screen, together with simplified representations of your opponents' declared sets"

For me, the greatest benefit of the Colossus Mah Jong program from CS Software (yes, this is a software review!) is that it works out all the scores for you. It also enables you to play by yourself. It has a demonstration mode, playing hints, four tutorials, nine levels of intelligence and variable playing speed. Unlike the real thing, you can peek at your opponents' hands without risking comments on your parentage and you can "rewind" the game to your last go if you change your mind about your discard.

The tiles in your hand are realistically presented in high resolution 3D graphics on the screen, together with simplified representations of your opponents' declared sets and a chart indicating the discards to date (this feature can be switched off for the benefit of skilled or conceited players).

In my opinion, Colossus Mah Jong is the fastest and easiest way of learning one of the greatest indoor games of all time. It's also fun to practice with once you have learned the basics. It is a worthy stable companion to the successful Chess and Bridge programs already available from CDS.

I miss the sight and the feel of those beautifully crafted tiles in my other Mah Jong set. I miss the company of three live opponents. And I miss the whisky. Otherwise, this version has everything. If you're into serious games, buy it!

TL

Price: *£9.99 (C) £14.99 (D)*

EASY MUSIC

Commodore 64 Music Part 6

Ian Waugh gets together with SID to make a noise and go swimming

The noise waveform is responsible for most of the unpitched sounds which emanate from the computer. Without it, games would have no bangs or crashes and it can be used in far more subtle ways as we shall see.

Noise is... well, noise, but there are different kinds of noise. The noise produced by the SID chip is white noise.

White noise

All electronic circuits generate a certain amount of noise and this is generally undesirable. In synthesis this can be used in numerous ways; as a source of unpitched sounds or as an unpitched part of a pitched sound.

White noise is a combination of equal amounts of audio frequencies in the same way that white light is a combination of all colours. If we move up the scale, say one octave from middle C (C4) to the C above (C5), the actual frequency of the note doubles. The frequency doubles every octave we go up so there are more frequencies (not counting fractions) in the higher octaves than in the lower ones. White noise, therefore, tends to contain a lot of high frequencies which is responsible for its characteristics hissing sound.

There are other forms of noise. The second most common form is known as pink noise which contains equal amounts of frequencies from all octaves and is similar to white noise with some of the higher frequencies filtered out. This is useful for producing surf and sea sounds. You can make 'red' noise by filtering out even more high frequencies and various other shades by filtering out a bit here and there. You can hear the wide range of noise you can produce by filtering with the program in our December issue.

There are two ways noise can be used:

1) By itself, with or without filtering and with control over pitch. With variations, a number of these can be played one after the other to produce rhythmic effects.
2) As 1) but in conjunction with some other sound.

Simple sound effects

Program 9.1 contains five examples of sound effects. Only one or two voices are used and none have been filtered.

The Machine Gun

The Machine Gun just alternates between two pitches of noise. This principle can be used to produce a number of effects. REM out line 310 and alter line 220 and 260 to produce the sound of a helicopter's blades:

```
220 POKE S+1, 33: POKE S, 135
260 POKE S+1, 25: POKE S, 30
```

From this, you should be able to produce a sound like a car that doesn't want to start. Increase the delay loops to add reluctance.

The Ricochet

The Ricochet is produced by combining noise from voice 1 with a sound from voice 2 undergoing a pitch drop.

Alter the pitches of both voices 1 and 2 and try different ADSR parameters.

The sound produced by voice 2 alone might be acceptable as a passing seagull, albeit an electronic one. More of this later.

The Cymbal or Anvil

This is similar to the Ricochet in that it combines noise with a pitch. Synthesiers usually produce a cymbal sound with a little chuff of white noise, sometimes with a ping added as we have done here. The result is usually a very electronic-sounding cymbal.

If you alter the delay and release parameters to 0 and reduce the loop in line 550 to about 10, you will get metallic-like clicks. These may sound a little more like an anvil.

Sleeping Creature

This was an attempt to produce an organic sound, ie one emanating from a living creature. Perhaps with a little stretch of the imaginaton it might be accepted as a snoring giant.

Organic sounds are particularly difficult to produce electronically and you may find this a useful start for further experiments. Try a variation on the Ricochet to produce a wheeze to follow the breath. Filtering may be of help here. Alter the frequency, F, in line 640 for a completely different sound.

Space Ship Taking Off

This illustrates an extreme example of pitch control. The STEP value in line 800 determines the speed of the take-off.

Exploring sound effects

As some of the best sound effects are produced in association with other channels with the use of sync and ring modulaton, etc. It is not easy to plan a methodical search to discover all the possibilities. Once you know what each parameter does however, it will be easier to imagine them in different contexts.

Soundscapes: a total sound effects program

With such a versatile sound chip there are lots of sound effect colleges you could build up: trains, ships, cars, a factory, the countryside, a laboratory, the jungle, etc. The most interesting are ones which will not repeat for a long time or which never repeat exactly. Program 9.5 uses some of the ideas discussed in this and previous articles to form a sea soundscape. As it stands, you just run the program, sit back and listen.

Program Notes

Most of the program is concerned with generating random numbers in a range which will produce interesting and acceptable sounds.

The variables in lines 210 to 240 repeatedly redefine the ADSR parameters of voice 3. DU sets the duration.

Sound Effects

```
100 REM PROGRAM 9.1
110 REM SOUND EFFECTS
120 :
130 S=54272
140 FOR I=STOS+24:POKEI,0:NEXT:REM CLEAR
 SID
150 POKE S+24,15
160 PRINT"[CLR]"
170 :
180 REM MACHINE GUN
190 A1=0:D1=0:S1=15:R1=9:GOSUB 900
200 FOR I=1 TO 3:REM BURSTS
210 FOR J=1 TO 12:REM BULLETS
220 POKE S+1,25:POKE S,30
230 POKE S+4,129
240 FOR D=1 TO 30:NEXT
250 POKE S+4,128
260 POKE S+1,16:POKE S,195
270 POKE S+4,129
280 FOR D=1 TO 30:NEXT
290 POKE S+4,128
300 NEXT
310 FOR D=1 TO 200:NEXT
320 NEXT
330 GOSUB 950
340 :
350 REM RICOCHET
360 A1=0:D1=0:S1=15:R1=9
370 A2=0:D2=0:S2=12:R2=9:GOSUB 900
380 POKE S+1,17:POKE S,195:REM PITCH GUN
390 POKE S+14,0:REM LO BYTE VOICE 2
400 FOR I=1 TO 3:REM SHOTS
410 POKE S+4,129:POKE S+11,17:REM GATES
ON
420 FOR J=199 TO 126 STEP -3:POKE S+8,J:
NEXT:REM RICOCHET
430 POKE S+4,128:POKE S+11,16:REM GATES
OFF
440 FOR D=1 TO 800:NEXT
450 NEXT
460 GOSUB 950
470 :
480 REM CYMBAL OR ANVIL
490 A1=0:D1=4:S1=12:R1=9
500 A2=0:D2=4:S2=12:R2=9:GOSUB 900
510 POKE S+1,134:POKE S,30
520 POKE S+8,134:POKE S+7,30
530 FOR I=1 TO 8:REM CLANGS
540 POKE S+4,129:POKE S+11,17:REM GATES
ON
550 FOR D=1 TO 80:NEXT
560 POKE S+4,128:POKE S+11,16:REM GATES
OFF
570 FOR D=1 TO 800:NEXT
580 NEXT
590 GOSUB 950
600 :
610 REM SLEEPING CREATURE
620 A1=12:D1=9:S1=0:R1=10
630 A2=12:D2=9:S2=0:R2=0:GOSUB 900
640 F=900
650 FOR I=1 TO 5
660 HF=INT(F/256):LF=F-256*HF
670 POKE S+1,HF+1:POKE S,LF
680 POKE S+8,HF+3:POKE S+7,LF
690 POKE S+4,33:POKE S+11,129
700 FOR D=1 TO 2000:NEXT
710 POKE S+4,32:POKE S+11,128
720 FOR D=1 TO 500:NEXT
730 NEXT
740 GOSUB 950
750 :
760 REM SPACESHIP TAKING OFF
770 A1=15:D1=0:S1=15:R1=15
780 A2=15:D2=0:S2=15:R2=15:GOSUB 900
790 POKE S+4,129:POKE S+11,129:REM GATES
 ON
800 FOR F=100 TO 65500 STEP 100
810 HF=INT(F/256):LF=F-256*HF
820 POKE S+1,HF:POKE S,LF
830 POKE S+8,HF/4:POKE S+7,LF
840 NEXT
850 POKE S+4,128:POKE S+11,128:REM GATES
 OFF
860 PRINTTAB(12)"THAT'S ALL!"
870 END
880 :
890 REM SET ADSR
900 POKE S+5,A1*16+D1:POKE S+6,S1*16+R1
910 POKE S+12,A2*16+D2:POKE S+13,S2*16+R
2
920 RETURN
930 :
940 REM NEXT SOUND
950 PRINT"[HOME][CD][CD][CD][CD][CD]  PR
ESS ANY KEY FOR NEXT SOUND"
960 GETA$:IF A$="" GOTO 960
970 PRINT"[HOME][CD][CD][CD][CD][CD]
                                    "
980 RETURN
```

The frequency of the wave is determined in line 300. Line 340 checks the envelope output of voice 3 and scales it to produce a value ranging from 255 to 2040. This is used to control the filter in lines 370 and 380. This makes a tremendous difference to the overall effect. If you fix the filter cutoff by adding, for example:

345 CU=1000

you will realise how important the filter is. As the wave builds up and increases in volume, so the cutoff frequency rises producing a quite realistic wave.

Line 350 calls the seagull routine randomly and line 360 calls the foghorn routine every 15 seconds.

The seagull is produced by a variation on the Ricochet in Program 9.1. Lines 470 to 490 are concerned with producing as wide a range of acceptable seagull noises as possible. The loop between lines 510 and 540 sweeps the pitch down from G1 to G2 in steps of minus G3. Some of the effects may be a little electronic and you may wish to restrict the range.

The Foghorn is produced by syncing voice 2 to voice 1. If you vary the pitches of the voices you can produce different foghorn sounds. Note that the waves continue crashing through all this.

Further experiments in soundscapes

Although we do not have the facilities of a full-blown synthesiser, we can still produce background effects which can be played throughout a program. An extension to a soundscape could be a graphics design program controlled, possibly, by the random values produced by the soundscape. That should not be too difficult and the SID chip can produce an enormous range of effects. Next month we'll get back to music.

Ian Waugh

Sea, Surf & Seagulls

```
100 REM PROGRAM 9.5
110 REM SEA, SURF AND SEAGULLS
120 :
130 S=54272
140 FOR I=STOS+24:POKEI,0:NEXT:REM CLEAR
 SID
150 POKE S+24,31:REM LP ON & VOL=15
160 POKE S+23,5:REM FILTERS 1 & 3 ON
170 POKE S+5,170:POKE S+6,200:REM ADSR 1
- SEAGULL
180 POKE S+12,176:POKE S+13,250:REM ADSR
 2 - FOGHORN
190 FH=TI:REM SET FOGHORN TIMER
200 :
210 AT=INT(RND(1)*(15-12)+12)
220 DE=INT(RND(1)*(14-11)+11)
230 SU=INT(RND(1)*(5-2)+2)
240 RE=INT(RND(1)*(14-11)+11)
250 POKE S+19,AT*16+DE:POKE S+20,SU*16+R
E:REM ADSR 3 - WAVES
260 DU=INT(RND(1)*(23-6)+6)
270 TM=TI:REM WAVE TIMER
280 :
290 REM FQ OF WAVES
300 FQ=RND(1)*(65535-2500)+2500
310 HF=INT(FQ/256):LF=FQ-256*HF
320 POKE S+15,HF:POKE S+14,LF:REM CHAN3
330 POKE S+18,129:REM GATE 3 ON NOISE
340 CU=PEEK(S+28)*7+255:REM ENV3 OUTPUT
350 IF INT(RND(1)*80)=1 THEN GOSUB 470:R
EM SEAGULL
360 IF TI>FH+900 THEN GOSUB 590:REM FOGH
ORN
370 HC=INT(CU/8):LC=CU-8*HC
380 POKE S+22,HC:POKE S+21,LC:REM FILTER
390 IF TI<TM+DU*60 GOTO 340
400 POKE S+18,128:REM GATE 3 OFF
410 GET K$:IF K$=" " GOTO 430
420 GOTO 210
430 POKE S+24,0
440 END
450 :
460 REM SEAGULL
470 G1=INT(RND(1)*20000)+1:G1=G1+45000
480 G2=G1-15000
490 G3=INT(RND(1)*3+1)*500
500 POKE S+4,17:REM GATE 1 ON
510 FOR F2=G1 TO G2 STEP -G3
520 H2=INT(F2/256):L2=F2-256*H2
530 POKE S+1,H2:POKE S,L2:REM CHAN1
540 NEXT
550 POKE S+4,16:REM GATE 1 OFF
560 RETURN
570 :
580 REM FOGHORN
590 POKE S+8,16:POKE S+7,195:REM C4 CHAN
 2
600 POKE S+1,4:POKE S,134:REM C#2+ CHAN
1
610 POKE S+11,19:REM GATE ON 2 + SYNC
620 POKE S+4,33:REM GATE ON 1
630 FOR I=1 TO 2000:NEXT
640 POKE S+11,18:REM GATE OFF 2 + SYNC
650 POKE S+4,32:REM GATE OFF 1
660 FH=TI:REM RESET TIMER
670 RETURN
```

Compunet

The Amiga On Compunet

Compunet was originally developed for the Commodore C64 but as reported recently in these pages the online database has now been made available for the Commodore Amiga and the Atari ST.

Naturally there were already many more Amiga owners on Compunet than Atari owners, since many have taken the natural upgrade path from the C64. Compunet have also found that many owners that sold their 8-bit machines in order to finance their new Amigas are now returning to the system.

Already Amiga owners are being very active in the database. In fact the first Amiga upload was made even before there were any 16-bit machines on the system. The program was transferred to a C64 via an RS-232 serial line and uploaded on that machine. Users eager to tap the first of Compunet's public domain Amiga software could then download it with their C64s and transfer it back to an Amiga in the same way.

Since then Amiga uploads have started to take off. Already some of the best Public Domain software such as ARC and MicroEmacs has been uploaded. ARC is a 'cruncher' that can create a library from a number of files and then 'crunch' it into a smaller file; useful for both archiving and saving time on up and downloads. MicroEmacs is a very powerful editor, capable of handling multiple files and windows. It's even programmable, so that if there is a function you need, but it doesn't provide, you can add it.

One of the most welcome programs to appear on Compunet has been the Virus Protector, uploaded in the '6510' area. This utility protects disks against the dreaded SCA-Virus. Not only can it identify and remove the Virus from infected disks but it is claimed that it protects disks from future infections.

Articles are also appearing on a variety of features of the Amiga. For example a multiple part tutorial on AmigaDOS has been uploaded. Compunet are now doing a special membership offer for Amiga owners. For £135 (plus VAT) they are selling a version of the Pace Linnet modem in a package that includes the Compunet terminal software, modem cable and a month's free access to Compunet.

Currently the Compunet software supports the Linnet, Miracle WS4000 and Astracom 1000. However device drivers to allow the software to use other Hayes compatible modems are under development. Already a user has uploaded an article on Compunet describing how to patch the standard driver to allow the use of the Dowty Quattro modem.

Compunet are also doing a good deal on C64/128 modems. These are basically the same design as the old Commodore Modem but have been built to a higher specification and contain improved software ROM. The modem only operates at 1200/75 baud and doesn't have such luxuries as Auto-Answer, but at £39.95 including three months subscription to Compunet it's the ideal way for a C64 or C128 to get online!

J.L.

JINKS. A COMPLETELY NEW ANGLE IN COMPUTER FUN...

GO!

TOMORROW'S SOFTWARE TODAY

The planet Atavi has puzzled mankind for centuries .... beautiful, mysterious and seemingly underdeveloped. How can something so amazing remain such an enigma? Now you shall find out as you guide your scout probe across the planet's surface in a unique exploratory research mission. But don't expect the planet or its inhabitants (whatever they may be) to take your interference kindly.

Rainbow Arts

CBM 64/128 £9.99t, £11.99d AMIGA £24.99d.
AMSTRAD £9.99t, £14.99d

GO! Media Holdings Ltd., Units 2/3, Holford Way, Holford, Birmingham B6 7AX. TEL: 021 356 3388

REVIEW

Alternative World Games

Gremlin

Take a world beating game formula such as the Epyx Games series, include a few wacky events, stick the world alternative on the front to give it that up the minute sound, and you've got a sure hit on your hands, or so Gremlin hope.

Most real sports have now been covered by computer games, so Alternative World Games turns to a set of crazy (some would say stupid) events. It all starts with the usual name entering and country selections. Choose your country and a laughing parrot puts on an appropriate record. There are eight events to play, and any number of these can be chosen by an original video screen system. Turning on the numbered screens gives a small animation demonstrating the event, in fact one of the best parts of the game.

Event one is the Sack Race. This is a race between two competitors against the clock. Moving the stick left and right hops towards the finish line. Between you and the line are manholes which flip open, tripping you up. These have to be jumped over if you're not going to lose precious time. If you lag too far behind the other player, a dog pulls you back into the race.

Next up is the Plate Balancing. First you choose how many plates to try for. Points are awarded for the amount of plates you have when you cross the finish line, and the time it took you. You can walk at different speeds depending on how confident you are, and move your hands to keep the plates balanced. This is not easy, but should be more enjoyable in the long run for that.

Boot Throwing is a simple event. There is a choice of an empty or full boot. The full boot will be heavier, but travel further. Using left and right on the stick, you swing the boot round before chucking it when it is at full speed.

River Jumping is a form of pole vaulting. Keeping the pole at a low angle gives the fastest run up the river, and a press of the button at the peak of the vault will send you flying to the opposite bank.

Pole Climbing is the most complex of the events. A complicated combination of joystick positions and fire button allow you to climb to the top of the pole, where you have to grab a bottle of champagne before your opponent. Sliding down the pole has to controlled with the odd tap of the button to slow your decent.

The Run Up the Wall event is probably the most awkward. This involves using up and down to control the players speed, standing under a bird who drops a hat, pressing the button, running up to the wall, pressing fire again, then up, then fire to stick the hat to the wall, then left and down. Yes, it is just as complicated to play as to describe.

Next there is the pillow fighting. This is played in a gondola in Venice. Armed with a squashy red pillow, you have to bash your opponent into the water with a number of attacking and defending moves. The standard joystick positions with and without fire are used, resulting in a sort of Way of the Exploding Pillow.

Finally we have Pogo Sticking. The object is to bounce to the end of the course, popping balloons on your way, all against a time limit. This involves bouncing around the 3D ruins of a Greek temple. This potentially interesting event is let down somewhat by some 3D that is hard to make out, and a rather slow pace.

Throughout the game the graphics are colourful and well animated, which makes it instantly appealing. Ben Daglish's jingly music tends to annoy, but some pieces are good. The idea is a good one, but although it is a jolly game, the complicated control methods rather let it down. If you can master these without frustration, Alternative World Games will certainly give you and your friends a very welcome variation on the World Games theme and a considerable amount of entertainment too.

Price: £9.95 (cass)
£14.95 (disk)
T.H.

Graphics: 88%
Sound: 67%
Playability: 72%
Overall: 75%
Rating: CRISP

. . . . THE POWER . . . THE SPEED . . . .
. . . . . TO OVERCOME . . . . . .
. . . . . THE UNEXPECTED . . . . . .

SPEEDKING WITH **FREE** GAME

£11.99

For use with the:
Spectrum 16, 48 and Plus.
Commodore 64 and 128.
All Atari. Amstrad CPC. MSX.

- The only joystick that actually fits your hand.
- Fire button positioned right under your trigger finger.
- Solid steel shaft and robust construction.
- 12 month guarantee.

SPEEDKING WITH AUTOFIRE

£12.99

For use with the:
Spectrum. Plus and Plus 2.*
Commodore 64, 128 and VIC 20.
All Atari (inc ST) Amiga. MSX.

- Auto-fire to give instant and even firepower (Autofire only).
- Micro-switches allow you to not only feel, but hear each move of the stick.

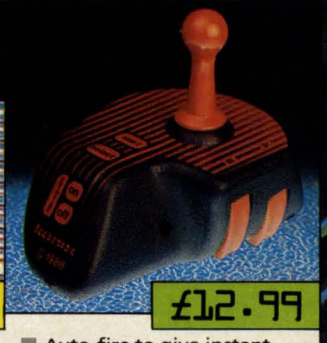
* (Spectrum Plus 2 £14.99)

SEGA® MASTER SYSTEM

£12.99

- The only joystick that actually fits your hand.
- Twin fire buttons positioned right under your trigger finger.
- Solid steel shaft and robust construction.
- 12 month guarantee.

NINTENDO® ENTERTAINMENT SYSTEM



£12.99

- Auto-fire to give instant and even firepower.
- Start and select buttons (Nintendo only).
- Micro-switches allow you to not only feel, but hear each move of the stick.

When you're pitting your wits against unknown foes you'll need to react fast. And with enough firepower to survive. Every single time.

The Speedking puts that much power at your fingertips.

High performance that gives you the power over the unexpected.

konix
PRODUCTS LIMITED
The fastest reactions in the business

Trade or export enquiries welcome on 0495 350101.

To: Konix Products Limited, Unit 35, Rassau Industrial Estate, Ebbw Vale, Gwent NP3 5SD. U.K.

Please send me _____ Speedkings with Game at £11.99 ea. _____
_____ Speedkings with Autofire at £12.99 ea. _____
_____ Spectrum Plus 2 Speedkings with Autofire at £14.99 ea. _____
_____ Segas at £12.99 ea. _____
_____ Nintendos at £12.99 ea. _____

(Prices include P&P). I enclose Cheque/Postal Order for _____
Made payable to KONIX. Or charge my Access/Visa

No. _____ Signed _____

Name (Block Capitals) _____

Address _____

_____ Postcode _____

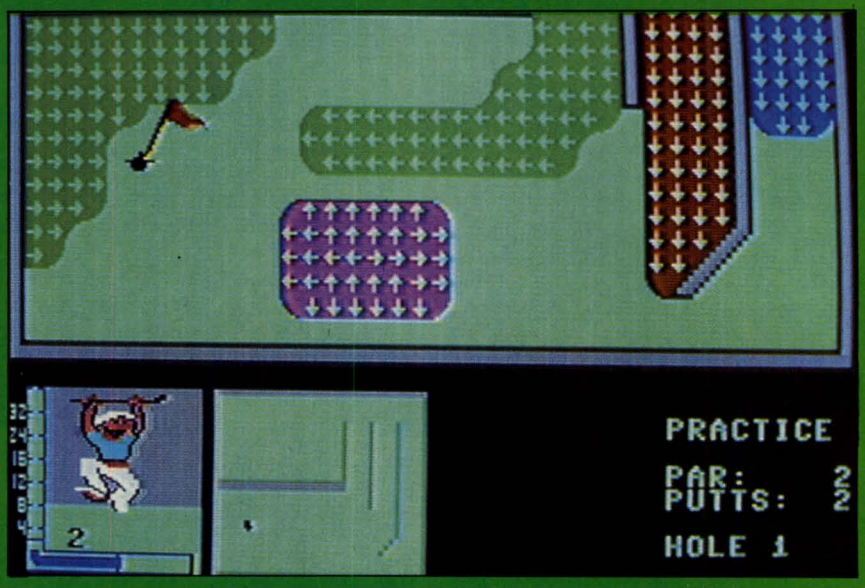
Allow 14 days for delivery ☎ Credit card holders may call on 0495 350101.

C64

MEGA

MINI PUTT

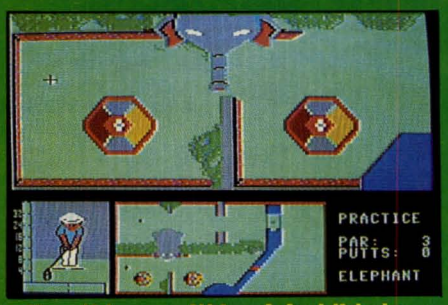
Electronic Arts



Recently there have been a good number of quality golf simulations on the 64, not least the outstanding Leaderboard series, but all these have been rather serious and sensible in their approach. With Mini Putt, EA have come up with a jovial alternative based on crazy golf.

Anyone who has played crazy golf will know it is played on a number of short holes riddled with slopes and wacky obstacles. One to four players cna compete over a choice of four nine-hole courses. On loading, the players are greeted by a jolly parkie in his kiosk, next to a fountain in the shape of a crazy golfer. Your first choice is whether to practice a hole or play a whole course.

A list of the four courses with equally inviting names comes up for your selection. Choose your course and your score card is thrust towards you by another of the friendly chaps that run the park. Enter your names and you're ready to roll. A point that should really be made in the instructions is that the cassette version has the course data in sequence on the flip-side, so taking not of the count after each course allows you to wind to the correct part.



Yes, it is a multi-load, but this is easily tolerated as each hole only takes about ten seconds to load from tape. The holes are presented with an over-head view of the complete hole at the bottom of the screen, and a similar enlarged play area above. In the bottom left corner, you'll see a cute man sizing-up and playing the shot, who'll jump for joy if you get it on or under par, but will bury his head if you don't!

Courses one, three and four rely on walls and bumpy ground to steer the ball off course. Course two, on the other hand looks far more like the crazy gold we all know and love, and includes a windmill, a cannon, a castle, and numerous other surprises. This course is the most enjoyable, but the others are surprisingly good fun. Small hills are represented by arrows pointing in the direction of the slope which don't look that attractive, but work well.

"Mini Putts control method is like a cross between a snooker game and Leaderboard"

As far as sound goes, I wasn't surprised that there is very little, just the odd effect.

Mini Putts control method is like a cross between a snooker game and Leaderboard. Positioning the cursor sets the ball's initial course, and a couple of carefully timed button presses define the strength and accuracy. The way the ball rolls around the slopes and bounces off the walls is very well done, and makes for a realistic game.

Each hole's par is normally only one or two, which can be very hard to equal, but compensates for the lack of skill levels. A small annoyance is the way that some of the obstacles can be negotiated first time, such as the windmill, but other times the same obstacle could add ten shots to your total. Fortunately, there is a technique to be used with these obstacles which will be mastered with further play.

EA have succeeded in writing a computer game around one of the few sports that hasn't already been done. I would have liked more of the courses to have included obstacles, but there enough variety to keep you going for a while. I'm sure additional courses packs would go down well as long as they're not too expensive. Mini Putt is a very nice game, its packaging and presentation are very attractive, and it deserves a place in your collection, especially if you've another player or three with which to enjoy it.

B.V.

Price: £9.95 (cass)
(disk)

Graphics: 77%
Sound: 25%
Playability: 88%
Overall: 84%
Rating: MEGA

C64

CRISP

Superstar Ice Hockey

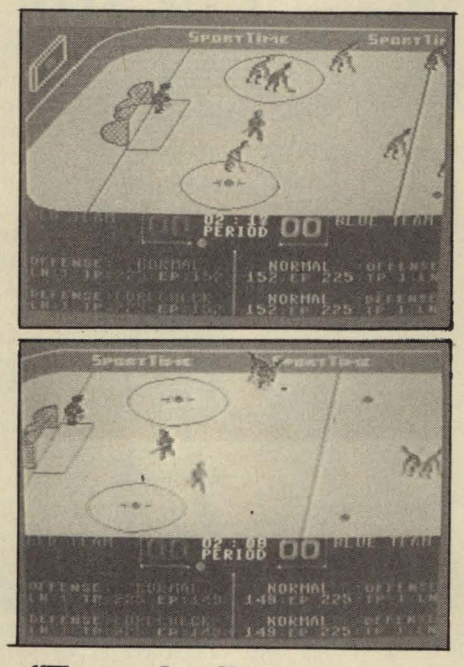
Databyte

Before now, the only ice hockey game I'd ever encountered was Slapshot. Although it's getting on a bit now, it still managed to capture the speed and excitement of the sport in a fairly entertaining game, so I was interested to see what progress had been made with Superstar Ice Hockey.

Ice Hockey was written by Sport Time, who were also responsible for Gremlin's Gary Linekar endorsed Superstar Soccer, and this is very apparent from the start. As with Soccer, the disk version starts at an options screen where the leagues and teams can be scruntinised.

As well as viewing the situation, you can carry out some team alterations here. the whole team can be sent to a training camp once a season to improve their overall performance. Team line ups can be adjusted to suit each player, and single players can be traded and recruited. All this is only present on the disk version, and adds a strategic aspect the game which I'm sure will be appreciated by a lot of disk users.

Both cassette and disk versions have a few more options preceeding the game. The length of the game, number of players on each team, team colours, whether to play against the computer or another player, computer or player controlled coaching, off sides, and the disk version can be a practie or league game (the cassette being practice only).



"To make the game more realistic the skaters build up speed gradually"

One long load later, the game gets underway. It uses the familiar horizontally scrolling side view. The player controls the same man throughout the game, and the screen scrolls with the puck. To make the game more realistic the skaters build up speed gradually. Some players are faster than others, but this can be very frustrating if you're stuck with a slow player. You can spend nearly all the game plodding around the ice, chasing the puck and never getting in any of the action. The game is far improved when a faster player is being controlled.

Pressing the fire button swings the stick which, of course, hits the puck if you're in possession, but this can also be used to trip opposing players. If the ref spots a foul, you'll be confined the sin bin for a short period of time when you'll just have to sit and watch the game go on without you.

At every break in the game, a coaching screen is displayed where you can change your team's strategy to suit the game's situation.

There's not much scope for an interesting background in an ice hockey game, but what there is, is adequate. Although the sprites look a little ape-like, their design and animation are realistic enough. The uninteresting Sport Time music plays before the game, and there are only a few simple effects in the game.

"It's a crisp game, and is capable of providing some enjoyable sessions"

Superstar Ice Hockey can be fun to play, but can also be annoying because of the slow response to the controls. Often you can react in time, but your on-screen skater cannot. Apart from this, it's a crisp game, and is capable of providing some enjoyable sessions. I should think anyone who plays ice hockey will be especially interested.

T.H.

Price: £9.95 (c)
£14.95 (d)

Graphics: 66%
Sound: 39%
Playability: 70%
Overall: 68%
Rating: CRISP

Evesham Micros

For Speed, Power and Ease of Use

FREEZE MACHINE

Only £28.95

Chills the rest !

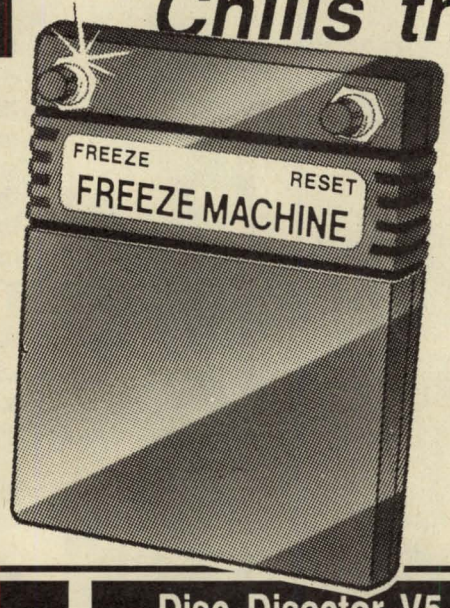
Features...
"Single part save"
Includes...
"Freeze Frame Mk V & Lazer II"

Features include...

- Totally unstoppable Freeze
- Fast save routines
- Ultra efficient file compactor
- Game killer
- Lazer and Turbo Fastloads
- Integral Reset button
- Tape turbo facilities
- 12 second disk Format
- Selective file copier
- Selectaload
- Plus many more !

UPGRADES

MkI, II, III, IIIB	£ 19.95
MkIV	£ 7.95
Lazer	£ 2.00



The most effective backup cartridge on the market? We feel no other "device" can remotely match the speed, power and ease of use of the FREEZE MACHINE. It's speed of operation is the most amazing feature - imagine being able to SAVE & reLOAD your favourite games in as little as 10 seconds and no more than 18. Buy one and see it perform, if you don't agree that it is the most formidable cartridge available, return it within your statutory 28 days for full refund - we are that confident!

Freeze Machine Utility Disc V3.0

Including over 30 routines, this is the latest version of the disk that complements use of the Freeze Machine. Used in conjunction with the catridge, it allows the complete transfer to disk of many programs that load extra parts, eg. Gunship, Last Ninja, World Games & Supercycle. A very useful add-on to Freeze Machine.

Upgrades: £2.00 **ONLY £7.95**

Dolphin DOS

Install Dolphin DOS and prepare to be amazed! LOADs & SAVEs files up to 25 times faster, LOADs 202 blocks in less than 5 secs, yet still maintains standard CBM disk format! Compatible with the majority of commercial software, it is now the established standard parallel operating system for the 64/128 using the 1541 disk drive, and includes many extra DOS & BASIC commands, a built-in monitor and Centronics printer driver, plus numerous other useful features.

Only £69.95

DOUBLER

THE tape backup device

The most effective product of it's type, the DOUBLER makes perfect first generation backups of your tape software. Consists of hardware and software, and requires access to two CBM type data recorders. So easy to use - works every time!

Only £12.95

1541 Exam

Problems with 1541 disk drive head alignment? No problem! This package contains a digital alignment disk and drive fault diagnosis software that will allow you to both **check *and* correct** head alignment on your 1541. Package also includes quiet drive stops to silence that 'knocking noise' associated with the drive.

Only £39.95

Disc Disector V5.0

Our popular disk backup/utility package features a wide range of powerful programs. The 'nibblers' provided will backup most-all protected software, and includes options for 3 or 8 minute copy and usage of 2nd drive. Utilities include: Menu Maker, Disk Orderly, Disk Rescue, Discmon+, Scratch/Unscratch, Fast Format, Disc to Tape, Selective filecopy, and many more. Also compatible with 128,128D & 1570 drive.

Only £19.95

Amiga 500

Amiga 500 ..... **£ 449.00**
Includes Deluxe Paint, ,Silent Service & 5 disks full of public domain software.

Phillips CM8833 (Monitor, suits A500).... **£ 279.00**
Stereo sound colour monitor, includes cable for A500.

SPECIAL OFFER**.....Amiga 500 with Amiga 1081 Monitor, only.....£ 669.00**

Disks & Boxes

25 bulk packed DS/DD disks, with sleeves, w/p tabs and labels. Good quality and fully guaranteed, only ..... **£ 13.95**

25 disks + box. Disks as above plus 50 capacity locking storage box, only ..... **£ 22.95**

25 disks + 100 box. As previous offer but with 100 capacity locking box. ..... **£ 24.95**

50 capacity box. Hi-quality lockable storage for 5.25" disks. Smoked Perspex top ..... **£ 10.95**

100 capacity box. Larger version ..... **£ 13.95**

Selected products

NEOS Mouse + Cheese. A very popular add-on for 64/128 users. High quality mouse, comes with full colour graphic software..... **£24.95**

'64 POWER PACK. Replacement power supply unit to suit the '64 ..... **£24.95**

MOTHERBOARD. 4 slot with either all upright or with one straight thro' for modem use (please state type when ordering..... **£28.00**

XETEC SUPERGRAPHIX. The best centronics interface for 64/128. Features 8K buffer and allows for downloadable fonts. Excellent value **£69.95**

DATA RECORDER. CBM compatible type, same as C2N/1531 but cheaper and includes a pause control **£24.95**

AZIMATE 3000. Multiple cassette loading difficulties? Check and adjust your CBM cassette unit when necessary with this head alignment kit. Very easy to use **£6.95**

1541C DISK DRIVE. We have them in stock but why not buy an Excelerator which is a better performer, has many advantages, comes with free software and is much better value..... **£189.95**

1541 QUIET DRIVE STOPS. Woodpecker trouble? Silence your 1541 now with these easy to fit stops. Also prevents head mis-alignment. Two sets provided to do 2 drives (not suitable for 'turn lever' types) **£4.95**

In Australia contact: Micro Accessories of S.A., Unit 8, Hewittson Rd, Elizabeth West, S. Australia 5113 Tel: (08) 287-0191

Dynamic Duo

A SUPERB BUNDLING OFFER

NEW LOWER PRICE !

Excelerator+ & GEOS £129.95

Excelerator+ & GEOS, *PLUS* Freeze Machine £149.95

FEATURES

- ★ Extremely compatible
- ★ Xcellent value
- ★ Compact size
- ★ Even lower price
- ★ Low noise
- ★ External 8/9 switch
- ★ Rave reviews
- ★ Attractive appearance
- ★ Turbos, no problem
- ★ One year guarantee
- ★ Runs cool
- ★ +Direct Drive Motor

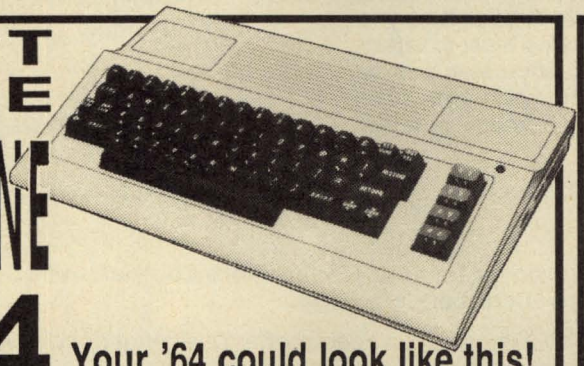
Now at an **even lower price,** this superb bundling offer combines the critically acclaimed **Excelerator+** with the super sophisticated **GEOS** (**G**raphic **E**nvironment **O**perating **S**ystem.) **GEOS** brings the power of a graphic interface and integrated disk turbo to the '64/128, from which you can access **geoPAINT**, a full-featured graphic workshop, **geoWRITE**, an easy-to-use WYSIWYG word processor and **Desk Accessories** which include Calculator, Notepad, Alarm clook, Photo album, etc. Many more extensions are available such as spreadsheet **geoCALC**, database/ mail-merge **geoFILE**, etc.

GEOS Products

Full range of GEOS products for the 64 & 128 at the best prices.

GEOS 64	£24.95
GEOFILE	£24.95
GEOCALC	£24.95
GEODEX/ DESKPACK	£21.95
GEOWRITE WORKSHOP	£24.95
FONTPACK ONE	£16.95
GEOSPELL	£16.95
GEOPUBLISH	£32.95
GEOS 128	£32.95
GEOWRITE WORKSHOP 128	£32.95

GET THE SLIMLINE '64



Your '64 could look like this!

Only £19.95

Why put up with an old fashioned looking computer? Fit one of these smart and modern looking new cases to your trusty '64, and it will look and feel like you are using a brand new computer.This high quality injection moulded case is simple to fit and gives a lower keyboard height. Don't put up with the old image, order one *now.*

IconTroller

Only £11.95

By Suncom, the keyboard mounted cursor controller, a natty little stick that attatches to your Commodore keyboard. Ideal for Icon-driven software, and perfect for GEOS applications.

LC-10 from star

The *NEW* No.1 CBM ready printer

- Four NLQ fonts, yes FOUR
- Paper Parking (use single sheets without removing tractor paper)
- Comprehensive 'front panel' operation of most modes
- 96 NLQ print combinations
- 144/36cps print speed
- Auto single sheet feed
- Tractor and Friction feeds
- Double & Quad height characters

Offering even MORE features than the NL10 it replaces, the LC-10 is the new No.1 from Star. Incorporating facilities not seen in this price range before, it is available as a Commodore ready printer for 64/128 users or as a standard parallel version for Amiga owners. Supplied with all cables, ready to operate, simply state your computer type when ordering.

Evesham Inclusive Price...

Only £199.00

***SPECIAL*...Price includes TWO extra ribbons free of charge.**

Evesham Micros

All prices VAT/delivery inclusive. Next day delivery £5.00 extra.

How to order...

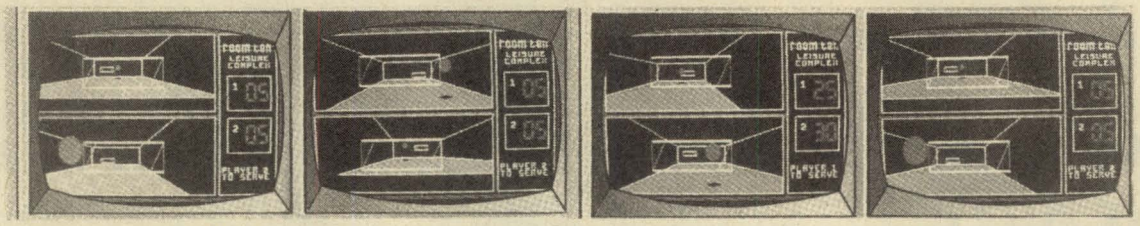
Send cheque P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
Same day despatch whenever possible
Callers welcome, open 6 days 9.30-5.30
All offers subject to availability, E.&O.E.
TELEX: 333294 FAX: 0386 765354

Evesham Micros
63 BRIDGE STREET
EVESHAM
WORCS. WR11 4SF
Tel: (0386) 765500

ALSO AT: 1756 PERSHORE RD., COTTERIDGE, BIRMINGHAM, B30 3BH. TEL: 021 458 4564

REVIEW

Room Ten by CRL



I was very surprised to see this game appear on the C16, as when it was out on the 64 — though it caused a few ripples in certain quarters — was generally received with an all round vote of a bit of a non-event. Indeed we even went as far as to say the game was pre-basic level, which is really going some, on the boring stakes!

I'm not sure of the scenario, and the built in game instructions don't seem to have been implimented into the game yet, but from what I can recall, it seems to be something aobut a future game, in a sports complex. The room you play in is called Room 10, and the game is like a 3-Dimensional version of table tennis, with two giant bats at either end of the room, and a massive ball that can bounce around freely anywhere in the room.

You must try to outmanouvre your opponent by getting him, or her to miss hitting the ball back to you. Thus giving you five points. The first to get to thirty five points wins the match. It is possible to play either against a human, or computer opponent, and there are four levels of skill and speed, so you can guage your ability (in theory anyway).

There's nothing that impressive about this game at first glance, but it looks competant enough, but a big problem with play is that the ball updates its 3-D image at very irregular intervals so you don't know when the ball is at your end of the room. In most situations this doesn't really matter as you just have to place your bat behind the ball, but sometimes the ball comes in at a sharp angle and you can often over, or undershoot, ending up missing the ball completely.

Another problem that made the game very frustrating was the speed of the bat — you can at most, get it up to a moderately fast crawl, which often fails to move from one side of the room to another, during the time you take to hit the ball and have to return it. This means you often lose points, not on your inability to play, but on the programs inability to move your bat fast enough. A weird facet of the game is the fact that I found the game easier to play at top speed, on the top skill level, than on novice mode — maybe they got the levels muddled...?

At first I found this game quite entertaining and enjoyed playing it in 2 player mode very much. However I can't see anyone enjoying it for too long —there just isn't enough to sustain interest for any decent length of time. It is a kind of laid back game that would be good to relax the mind, if you can get the hang of it, but who wants that in an expensive action game? Maybe if it were budget... Nevertheless with the small amount of C16 games being released now, this is bound to find a welcome.

C.K.

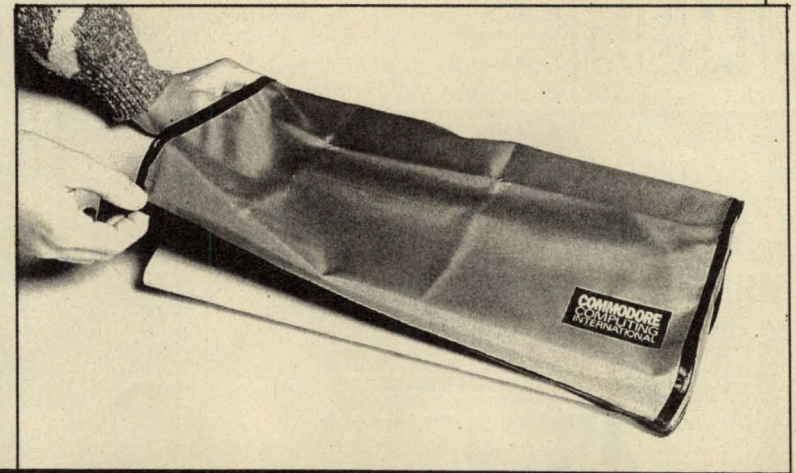
Graphics: 54%
Sound: 27%
Playability: 68%
Overall: 54%
Rating: IFFY.

COVER UP!

Only £3.99 for the C64, C16, C18, Plus/4, C128 and 64C (all + 75p P+P)

A cover for your Commodore computer will protect it from dirt and damage.

CCI is making a special offer of strong, goodlooking covers to fit Commodore computers : C64, C16, Plus/4 and C128. The covers are designed in a cool grey with a neat yellow on black logo. They are of the highest quality and manufactured in smooth plastic to first class standards. CCI covers... Protect your Commodore computer with a touch of style.

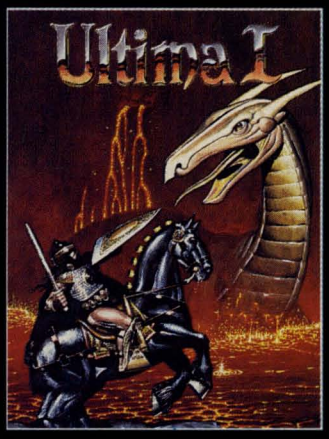


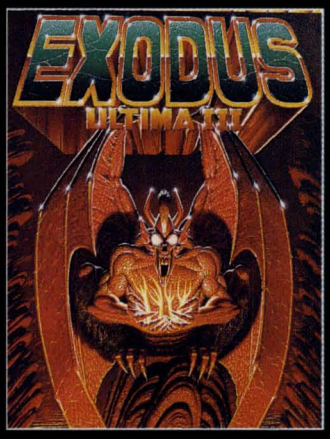
Please send me .... covers for my
C64 ☐ C16 ☐ Plus/4 ☐ C128 ☐ 64C ☐
I enclose cheque/P.O. payable to Croftward Ltd
for £.....
Please charge my
Access Acc No ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
Name .....
Address .....
.....
Postcode .....
Send to: CCI Cover Offer 010
Commodore Computing International
40 Bowling Green Lane
London EC1R ONE
Allow 28 days for delivery

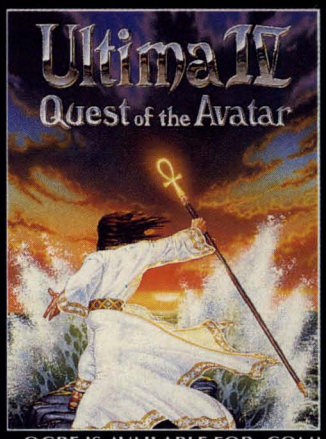
ORIGIN SYSTEMS INC.

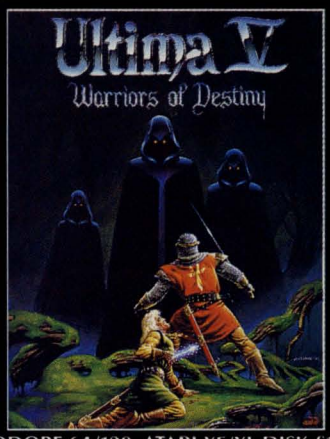
THE START OF SOMETHING NEW

ULTIMA I: CBM 64/128 £19.95; IBM, APPLE £24.95. ULTIMA III: CBM 64/128, ATARI XE/XL £19.95; MAC, IBM, APPLE, ATARI ST, AMIGA £24.95. ULTIMA IV: CBM 64/128, ATARI XE/XL £19.95; IBM, APPLE, ATARI ST, AMIGA £24.95. ULTIMA V CBM 64/128 £19.95; APPLE £24.95.

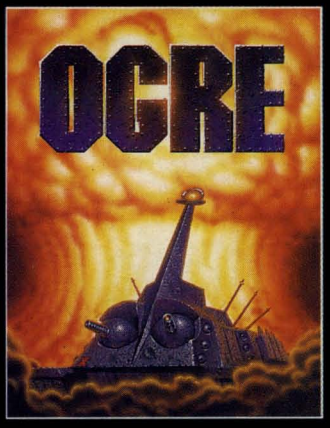








OGRE IS AVAILABLE FOR: COMMODORE 64/128. ATARI XE/XL DISK £19.95. IBM, APPLE, ATARI ST, AMIGA



AND MAC DISK £24.95.

AUTODUEL IS AVAILABLE FOR COMMODORE 64/128 ATARI XE/XL DISK £19.95. APPLE, ATARI ST DISK £24.95

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.

DARK CASTLE

Mirrorsoft

When Manic Miner started off the platform game craze, almost anything involving jumping, platforms and patrolling nasties was instantly successful. I remember a time when I just couldn't get enough of them, but times may have changed, and other game-styles have taken over. Mirrorsoft have just released Dark Castle, a platform game that owes a lot to Donkey Kong, Barbarian (Psygnosis) and a good few others, but is none the worse for that.

The setting is a fantasy world of castles, ogres and scorcery. You have been given the job of getting rid of the Black Knight, who is no doubt a baddie through and through. He hangs out in Dark Castle, situated atop a large hill. This is no ordinary castle, but is riddled with platforms suspended in mid-air and trap doors to capture unwary visitors. You might guess from its name that a multitude of spooky creatures haunt the chambers. Bats, rats, tin men, whip-cracking slave drivers and more, all pose a threat to outsiders.

You have control of a spritely chap with a large handful of rocks for ammo. With him you can run, jump, duck, climb and lob rocks. If you're lucky you could find a more powerful weapon to use against the enemies. Because of the amount of actions you can perform, the mouse is used as well as the joystick or keyboard. This leads to a bit of confusion when monsters are closing in from all sides, but can be mastered with practice.

An excellently atmospheric picture of the castle in a storm accompanied by a snatch of pipe organ music, starts the game well. Unfortunately, the rest of the graphics are not quite up to this standard, but there's not as much scope considering their size. The bats and rats for instance, are very basic, but the main character has some amusing animation.

"The grunts and screeches liven the game up terrifically"

You can't help noticing the excellent sound effects during the game, which are easily the best part of it. The grunts and screeches liven the game up terrifically, and for once they are sound effects that don't get boring.

Platform games can be great fun, partly due to the fact that most have a load of different screens to get to. To a degree, this is the case with Dark Castle, but it's slightly let down by the fiddly controls. It can be very annoying when you fall over for no apparent reason, or when our hero refuses to go down some stairs. Another niggle is that it's too easy to climb up some stairs or a ladder and jump off the platform when he gets to the top.

If you can bear these problems, you could be in for a tremendous amount of fun. It can be frustrating partly because of the long disk accesses between games and levels. For anyone with a single drive system, the disk swapping could be a pain. All in all though, Dark Castle's good points far outweight its bad ones.

I have to warn you that Dark Castle is really difficult but most players will find it a furious challenge that will draw you back again and again to defeat the bats, the rats, the man with the whip and all the other nasties who just keep on coming at you.

B.V.

Graphics: 6
Sound: 9
Playability: 7
Value: 7

THE ACTION—SIMULATION

AIRBORNE RANGER™

You are one of the elite . . . parachuting alone behind enemy lines. The enemy controls the terrain, hidden in bunkers and machine gun nests . . . you may be surrounded. The action is fierce as you control one soldier's battle against overwhelming odds. You'll need skill and strategy to outmanoeuvre your enemy, plus courage and some luck to make your escape. Airborne Ranger is an exciting fast-paced simulation with 12 desperate missions in 3 different regions of the world. The possibilities are endless!

AIRBORNE RANGER. A challenging combination of danger and suspense. Available for the Commodore 64/128K. Cassette £14.95 Disk £19.95.

MICROPROSE
SIMULATION • SOFTWARE

Please send_____ copy/ies of Airborne Ranger CBM 64/128 ☐ Cassette £14.95 ☐ Disk £19.95 ☐ Further details.

Name (block capitals)_____ Address_____

Post Code_____

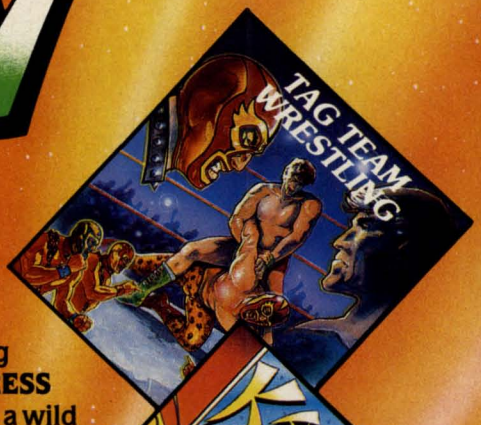
I enclose £_____ including 55p P+P. Cheques payable to MicroProse Software Ltd,

or debit my Access/Visa card. Expiry date_____ No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.

DATA EAST'S

ARCADE ALLEY

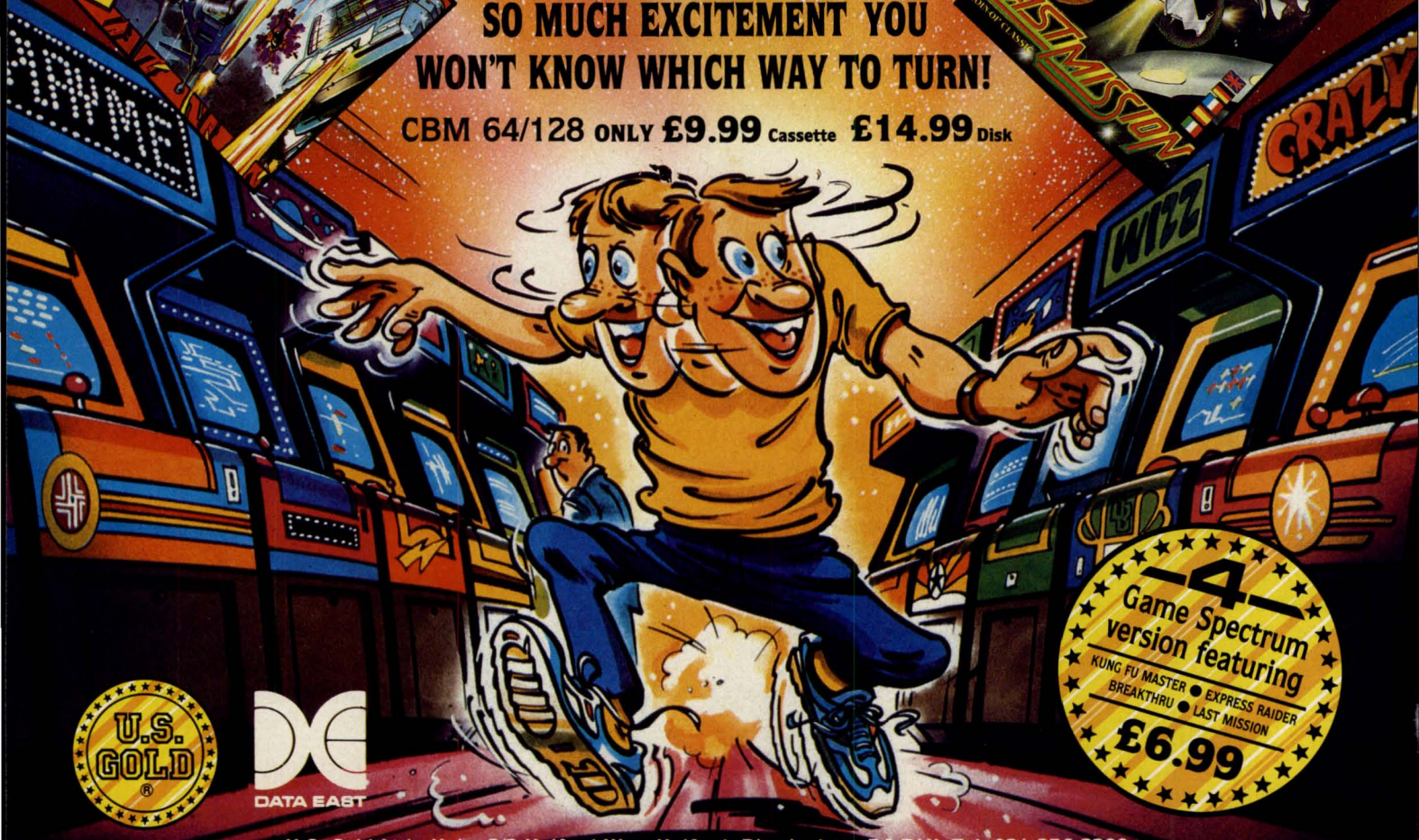


A SIX GAME ACTION PACKED COMPILATION FEATURING

KUNG FU MASTER Battle the deadly guardians and demons armed with nothing more than your own martial arts skills. **EXPRESS RAIDER** Hold ups, robberies and roof top fights ... a wild west classic. **BREAKTHRU** from 400 miles behind enemy lines, recover PK430. A revolutionary fighter in a revolutionary game. **TAG TEAM WRESTLING** Body slams, drop kicks, backbreakers and flying head butts – stamina and teamwork are the keys to championship success. **LAST MISSION** Armed with the most sophisticated weapons systems and guarded by a protective forcefield, return to your invaded galaxy to face the most startling of death defying odds. **KARATE CHAMP** Can you master the kicks, spins, reverse punches and blocks needed to retain your title?

SO MUCH EXCITEMENT YOU WON'T KNOW WHICH WAY TO TURN!

CBM 64/128 ONLY **£9.99** Cassette **£14.99** Disk



-4- Game Spectrum version featuring
KUNG FU MASTER ● EXPRESS RAIDER
BREAKTHRU ● LAST MISSION
£6.99

U.S. GOLD ®

DATA EAST

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01 430 0954

The specialist centre for Commodore 64, 128 and Amiga

Selected items from stock

Software for CBM64/128 d=disk r=cartridge t=tape

ACCOUNTS

Anagram	Sales Ledger (64 or 128)	d £35.00
	Purchase/Nominal Ledger with journal	d £35.00
	Cashbook	d £35.00
Fieldmaster	Sales Ledger (64 or 128)	d £35.00
	Purchase Ledger (64 or 128)	d £35.00
	Nominal Ledger (128)	d £46.00
Studio	Payroll 64 or 128	d £44.00
	Sideways (64 and 128)	d £35.00

STOCK CONTROL SYSTEMS

Anagram	Stock Control (64 or 128)	d £35.00

DATABASE FILING SYSTEMS

Cardco	Mail Now	d £30.00
Digital	Pocket filer 64	d £36.00
	Superpack (Writer, Filer, Planner for 64)	d £75.00
Precision	Superbase (64)	d £24.00
	Superbase (128)	d £39.00
	Superbase Starter	d £20.00
PSI	Fleet Filer 64/128	d £39.00

WORD PROCESSORS

Broderbund	Bank Street Writer	d £49.00
Digital	Pocket Writer 64	d £36.00
	Pocket Writer 64/128 v.2	d £49.00
	Superpack (Writer, Filer, Planner for 64)	d £75.00
Precision	Superscript (64)	d £24.00
	Superscript (128)	d £39.00
PSI	Fleet System 4 (WP, Database) 128	d £69.00
Tasman	Tasword 64	d £19.00
Xetec	Fontmaster II (64 or 128)	d £49.00

SPREADSHEETS

Cardco	Calc Now	d £30.00
Digital	Pocket Planner 64	d £36.00
	Pocket Planner 64 or 128 v.2	d £49.00
	Superpack (Filer, Writer, Planner for 64)	d £75.00
Fieldmaster	Worksheet	d £10.00
F.P.	Powerplan	d £40.00
Practicorp	PS Spreadsheet	d £15.00

AIDS & UTILITIES

Access	Mach 5 Fastload	r £20.00
Abacus	Chartpak 64	d £24.00
	Chartpak 128	d £39.00
	Cadpak 128	d £49.00
	Cobol 64 or 128	d £49.00
	Basic 64 Compiler	d £39.00
	Basic 128 Compiler	d £49.00
	Super Pascal 64	d £49.00
Berkeley	Geos	d £24.00
	Geos 128	d £39.00
	Fontpack 1	d £24.00
	Deskpack	d £24.00
	Geowriter Workshop 64 or 128	d £37.00
	Geodex	d £24.00
	Geoprogrammer	d £30.00
	Geofile	d £29.00
	Geocalc	d £29.00
	Geopublish	d £49.00
	Geospell	d £27.00
Broderbund	The Printshop	d £29.00
	Graphics Library (1, 2 or 3)	d £18.00
	Holiday Graphics	d £18.00
	The Printshop Companiion	d £29.00
Cardco	S'More (22K extra Ram, Toolkit)	r £49.00
Infinity	1541/1571 Disk Drive Alignment Program	d £35.00
Evesham	DolphinDos	r £65.00
	Freeze Machine	r £28.00
Orpheus	Cad 64	d £20.00
Practicopr	64 Doctor	d £12.00
Rainbird	Art Studio	d £17.00
	Advanced Art Studio	d £24.00
RW	Merlin 64 Assembler	d £49.00
	Merlin 128 Assembler	d £69.00
Springboard	The Newsroom	d £49.00
	Clip Art 1	d £25.00
	Clip Art 2	d £27.00
	Clip Art 3	d £27.00
Skyles	Victree	r £30.00
Suncom	The Animation Station (Graphic Tablet)	d £79.00
Vocox	Voicemaster Jr	d £29.00
	Voicemaster	d £69.00
Supersoft	Zoom monitor	d £12.00

FLIGHT SIMULATIONS

Actionsoft	Thunderchopper	d £29.00
Microprose	Gunship	d £20.00
	Stealth Fighter	d £19.00
Sublogic	Flight Simulator II	d £39.00
	Jet v.2.0	d £35.00
	Scenery disks (each)	d £19.00
	Scenery disks (set of 6)	d £90.00
	Scenery disk (Japan)	d £19.00
	Star Disc	d £19.00
	Scenery disk No. 7 or 11	d £19.00

UK and Europe - Prices include VAT, Add £2.00 P&P
Other countries - Prices exclude VAT but add 20% to above prices (air)

Competitions THE WINNERS!

List of winners for 24 Gremlin Games T-shirts.

Mr P Antoniades
Cyprus

Sheila Wright
Norfolk

Miss Karen Duff
Eastlothian

Mr R Walker
West Midlands

Chris McLean
Cheshire

Mr A Hagon
Bucks

Miss I Sweet
West Midlands

Mr A Tate
Whitely Bay

Chris Barbutt
Essex

Mr G Hart
Lancashire

Mr P Cheesbrough
Cumbria

Leena Kudra
Bahrain

Mr R X Bloor
Stoke-on-Trent

J Tyrell
Liverpool

S Logan
West Lsthian

Mr A Wright
Norfolk

Mr M Naughton
Limerick

Mr M Birch
Hants

Mr M Tipple
Tyne & Wear

Mr D Connor
Liverpool

Kashif Shiya
Bradford

Mr S Duxbury
Wakefield

Mr W'Cluney
Co Down

Mr M Clarke
Manchester

A J Clarke
Co Tyrone

Winners of the E.A.– L. of T.A.+ B.T. II – Comp 1st 10 – games and t-shirts.

Justin Warren,
Scotland

Zoe Darlington,
Shropshire

P. Shouter,
Leicester

Mr A P Swinbourne,
South Glam

Richard Griffiths,
Australia

Kari Tuovinen,
Finland

Geoff Shaw,
Lancs

A P Ware,
West Midlands

T K O'Callaghan,
Suffolk

Mrs J Archer,
Newcastle upon

J Tyrell,
Liverpool

Lee Wilmot,
Tyne and Wear

S Farmer,
Surrey

Chris Garbutt,
Essex

Eugene Morgan,
N Ireland

Andrew Waller,
Birmingham

W J Daudle,
Co Durham

Franklin Polidano,
Malta

N J Coates,
Northumberland

T E Watts,
B F P O 40

Richard Keeling,
Staffs

David Williams,
Lancs

P G John,
West Glam

A H Bowden,
Herts

Mike Tate,
Hants

D Wonfor,
Suffolk

Richard Walker,
West Midlands

Mr B Mooney,
Tyne and Wear

Chris Phillips,
South Glamorgan

D J Cook,
Hants

Rob Newman,
Bristol

Gerald Koh,
Singapore

J Gardiner,
Surrey

Mr M Blackwood,
Surrey

R Palmer,
Stafford

Dave Connor,
Liverpool

Mr K Williamson,
London

Mr S J G Reeves,
Solihull

Mick Molloy,
London

John Consadine,
North Humberside

Darren Laven,
London

M Jones,
Leics

Richard Walden,
Coventry

Matthew Tipple,
Tyne and Wear

J Arnold,
Merseyside

Jonathan Goodall,
Hants

Malcolm James,
Southampton

Lawrence Mifsud,
Malta

Winners of Gremlin game t-shirts

P Antoniades,
Cyprus

Sheila Wright,
Norfolk

Karen Duff,
Eastlothian

R Walker,
West Midlands

Chris McLean,
Cheshire

A Hagon,
Bucks

I Sweet,
West Midlands

A Tate,
Whiteley Bay

Chris Garbutt,
Essex

G Hart,
Lancashire

P Cheesbrough,
Cumbria

Leene Kudra,
Arabian Gulf

R X Bloor,
Staffordshire

J Tyrell,
Liverpool

S Logan,
West Lothian

A Wright,
Norfolk

M Naughton,
Limerick

M Birch

M Tipple,
Tyne and Wear

D Connor,
Liverpool

Kashif Shiya,
West Yorkshire

S Duxbury,
Wakefield

W Cluney,
Northern Ireland

M Clarke,
Manchester

A J Clarke,
Northern Ireland

Winner of Bubblebus Skateboard

Cpl Turrill 704,
Essex

Runners up for Bubblebus t-shirts

J M Mooney,
Leicester

M T Irwin,
Cambs

Davon Chichester,
Cardiff

Guy Watkins,
Worcester

G A Mander,
Warks

Neil Telford,
Cumbria

J Markham,
Herts

Richard Walker,
West Midlands

Daniel Bassford,
Nottingham

L Wynton,
Ross-shire

Seemant Kulleen,
Africa

25 Winners of Gremlin's "Highway Encounter" Comp.

Matthew Tipple,
Tyne and Wear

John Mitchell,
Cleveland

Marvin Jones,
California

Peter Hynds,
Essex

Chris Garbutt,
Essex

Mike Davies,
Dyfed

Lorenzo Razo,
Mexico

David Black,
Tyne and Wear

Gareth Parris,
S W Waks

Paul Takla,
Surrey

J Arnold,
Merseyside

Nigel Mark Poland,
Sussex

L Beatty,
Co Antrim

Richard Wilkes,
Surrey

A H Bowden,
Herts

Mike Jones,
Leics

David Upchurch,
Cambs

R Newman,
Bristol

Richard Walker,
West Midlands

Geoff Bayliss,
Fife

Jamie Roche,
Dorset

Q Lees,
Somerset

Michael Burton,
Cleveland

D R Clarke,
Lindley Estate

The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01-430 0954

The specialist centre for Commodore 64, 128 and Amiga

Amiga Software

Business

Abacus	Textpro	£57.00
Grafox	Logistix	£119.00
Maixsoft	Maxidesk	£49.00
	Maxiplan Spreadsheet	£129.00
	Maxiplan 500	£115.00
	Maxiplan Plus	£149.00
	Maxicomm	£49.00
Microsystems	Scribble Wordprocessor v.2	£75.00
	The Works (WP, Database, Spreadsheet)	£169.00
Digital	LPD Word Processor	£99.00
CDA	Lex Check Speller	£33.00
Precision	Superbase	£89.00
Gold	Pagesetter Desk Top Publishing	£95.00
Northeast	Publisher 1000	£139.00
New Horizons	Flow Idea Processor	£79.00
	ProWrite	£99.00
Nimbus	Record keeping for business accounts	£149.00
Sedona	Money Mentor Personal Finance	£79.00
Aegis	Impact	£73.00
Commodore	Textcraft v.1.1	£66.00
Soft. Vis.	Microfiche Filer	£79.00
Tarus	Acquisition Database	£225.00
VIP	VIP Professional	£149.00
Word Perfect	Word Perfect Word Processor	£199.00
OXXI	Nimbus	£149.00

Utilities

Abacus	Assempro	£65.00
AC	Fortran	£239.00
A. Wesley	True Basic	£69.00
Aegis	Images	£29.00
	Animator	£99.00
	Art Pak	£24.00
	DigA	£65.00
	Draw	£99.00
	Draw-plus	£199.00
	Sonics	£63.00
	Videoscope 3D	£149.00
	Audiomaster	£46.00
Byte	Sculpt 3D	£79.00
	Animate 3D	£99.00
C Ltd	Timesaver for A1000	£59.00
Commodore	Amiga Term	£49.00
	Amiga C	£129.00
	Amiga Enhancer	£14.00
	Amiga Assembler	£69.00
Discovery	Grabbit	£23.00
EA	De Luxe Paint II	£89.00
	De Luxe Print	£69.00
	De Luxe Print Data Disk 2	£29.00
	De Luxe Video Constr. Set II	£89.00
	Instant Music	£29.00
Easyl	Graphic Tablet (A1000 or 2000)	£379.00
	Graphic Tablet (A500)	£329.00
HiSoft	Devpac Assembler	£59.00
Impulse	Prism	£59.00
Infinite	Galileo (Planetarium)	£69.00
Lattice	C Compiler v.4.0	£179.00
Meridian	Zing	£69.00
Modula	Modula 2 (Developers)	£129.00
Manx	Aztec C Compiler (Developers)	£229.00
Metacomco	MCC Pascal	£85.00
	Amiga Toolkit	£39.00
	Macro Assembler	£69.00
	Shell	£49.00
MicroIllusion	Dynamic Cad	£425.00
Micromagic	Forms in flight	£63.00
Mindscape	Keyboard Cadet Typing Tutor	£39.00
Mindware	Page flipper	£46.00
New Tech	Digiview v.2	£149.00
	Adaptor for Amiga 500	£25.00
	Digi Paint	£46.00
New Wave	Dynamic Studio	£149.00
	Dynamic Studio	£39.00
Progressive	Introcad	£59.00
	Pixmate	£49.00
PVS	Pro Video GT	£179.00
	Pro Video Font Library Set 1, 2 or 3	£69.00
Rendale	Genlock (PAL)	£430.00
	Genlock (PAL) for 500	£290.00
Sophus	S5 Sound Sampler	£160.00
A. Wesley	True Basic	£69.00
	Developers Toolkit	£39.00
Unison	Printmaster Plus	£39.00
	Printmaster Art Gallery (1 or 2), each	£29.00
	Fonts & Borders	£39.00
Zuma	Fonts 1, 2, 3 each	£29.00
	TV Text	£73.00
Exp. Tech.	Escort 2MB Memory Expansion	£539.00
	Escort 4MB Memory Expansion	£939.00
Micron	2.0MB Card for 2000	£449.00
Spirit	1.5MB Card for A500	£449.00
	1.0MB Card for A1000	£349.00
	1.5MB Card for A1000	£449.00

Educational

Com. Spec	Space Maths	£36.00
FB	Math Talk	£36.00
	First Shapes	£36.00
Linkword	Italian, Spanish, German, Dutch, Russian	£29.00
Microillusion	Discover Spell	£36.00
	Discover Maths	£36.00
Sierra	Winnie the Pooh	£19.00
Unicorn	Fraction Action	£36.00
	Decimal Dungeon	£36.00
	Animal Kingdom	£36.00
	Maths Wizard	£36.00
	Aesops Fables	£36.00
	Word Master	£36.00
	Readarama	£36.00
	Arabian Nights	£36.00
	Adventures of Sinbad	£36.00
TBI	Arithmetic	£36.00
	Algebra I	£36.00

Simulations

Argus	Hunt for Red October	£24.00
Artwork	Bridge 5	£29.00
Sublogic	Flight Simulator	£37.00
	Scenery disk	£19.00
Access	Leaderboard Golf	£29.00
Accolade	Mean 18 Golf	£36.00
	Mean 18 Data disk	£20.00
	Test Drive	£36.00
Alert	Balance of Power	£29.00
Baudville	Video Vegas	£29.00
Bethesda	Gridiron Football	£44.00
Microprose	Silent Service	£24.00
EA	Chessmaster 2000	£39.00
	Earl Weaver Baseball	£34.00
Infinite	Grand Slam Tennis	£24.00
MicroIllus	Blackjack Academy	£29.00
Microsearch	Headcoach	£39.00
SSI	Kampfgruppe	£46.00
	Roadwar 2000	£29.00
	Roadwar Europa	£29.00

Games

EA	Archon	£19.00
	Bards Tale	£36.00
	Marble Madness	£27.00
	Seven Cities of Gold (A1000 only)	£29.00
Cygnus	Starfleet	£44.00
Epyx	Rogue	£27.00
	World Games	£24.00
	Winter Games	£24.00
Interstel	Quizzam	£29.00
Microdeal	Goldrunner	£24.00
Mindscape	Halley Project	£36.00
	Racter	£36.00
	Brataccus	£29.00
	Defender of the Crown	£29.00
	Sinbad	£29.00
	SDI	£29.00
	Deja Vu	£29.00
	The Uninvited	£29.00
	Shadowgate	£24.00
Activision	Borrowed Time	£24.00
	Mindshadow	£24.00
	Portal	£34.00
Unicorn	Diablo	£24.00
Psygnosic	Barbarian	£24.00
	Terrorpods	£24.00
Rainbird	Pawn	£24.00
	Guild of Thieves	£24.00
Insight	Financial Time Machine	£29.00
Other Valley	Monkey Business	£18.00
	Delta Patrol	£18.00
Origin	Ultima III	£29.00
	The Ogre	£29.00
	Moebius	£24.00
Sierra	Space Quest	£29.00
	Kings Quest	£19.00
	Kings Quest II	£19.00
	Kings Quest III	£19.00
	Black Cauldron	£29.00
SSI	Phantasie	£29.00
	Phantasie III	£29.00
Synapse	Mindwalker	£36.00
Infocom	Leather Goddesses of Phobos	£29.00
	Hitchhikers Guide to the Galaxy	£29.00
	Moonmist	£29.00
	Hollywood Hi-Jinks	£29.00
	Bureaucracy	£29.00
	Nord & Bert	£29.00
	Plundered Hearts	£29.00
	The Witness	£19.00
	Suspect	£19.00
	Mind forever voyaging	£29.00
	Stationfall	£29.00
	Deadline	£19.00
Mel. House	Xenon	£19.00
MicroIllus	Faerytale	£37.00
Jagware	Alien Fires	£37.00
Three Sixty	Dark Castle	£24.00

Books

Addis Wesley	Amiga Reference Manuals (set of 4)	£104.00
	Amiga Dos Manual	£20.00

Disks

Fuji	3½in, ds, box of 10	£20.00

Hardware

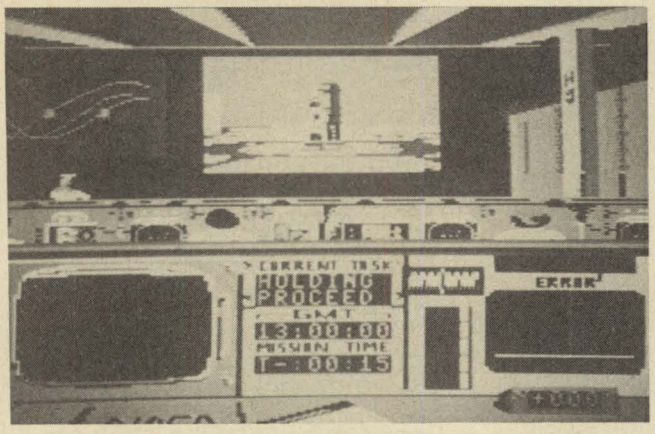
	Amiga 500	£450.00
	External drive (Precision)	£139.00
	A1084 Monitor	£325.00
	A501 512K Memory Expansion	£110.00

All prices include VAT — Add £2.00 for P&P (UK and Europe). Add 20% for other countries.
VISA/Access Telephone orders accepted

TOUCH 'N' GO TRAJECTORY

Odd to think that with the shelving of America's space program after the '86 shuttle disaster, there must already be tens of thousands of youngsters in the world who have never consciously witnessed a manned space launch - at least in the West. Will either of the great powers ever again devote so much of their resources to space supremacy, now that Ronnie and Mickie are such good pals that real star wars (which the cynical will observe was always the thinking behind Uncle Sam's sustained interest in space supremacy) seem likely to have less of a future than George Lucas's creation? If not, then apart from the use of unmanned rockets to launch communications satellites and for deep space exploration, we could have seen an end to programs of spectacular launches epitomised by the Vostock and Apollo series of the 1960's and 1970's.

If so, your grandkids will have to be content watching old videos of the real thing and perhaps enjoying the quaint two dimensional gameplay offered by your archival copy of Apollo 18 from Accolade - which, to give its proper pedigree, is a new label from Electronic Arts.



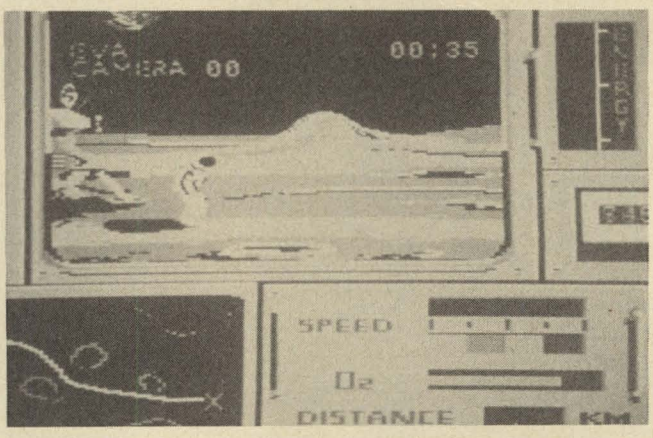
As a game of today, however, Apollo 18 has all the ingredients to give hours of weightless pleasure to those made of the Right Stuff, or at least like to think they are. To tag it a simulation would probably be to put off many people for whom that category is synonymous with the worst of computer wargaming. What Apollo 18 does is to combine the real-time excitement of an arcade game with the realism and detail of something much more sophisticated. So to succeed with your mission (should you decide to accept it), you need to be more than just a dab hand with the joystick.

Apollo 18 takes the player through every stage of a voyage to the moon and after enjoying a picture book of nicely atmospheric loading screens, you're soon at the controls checking off the status of all your craft's crucial functions. For the launch sequence, your viewpoint is actually that of mission control, watching a brilliantly-animated lift-off on your TV monitor. The next few seconds are vital, as you endeavour to stab the fire button at precisely the right moment at each stage from blast-off to the jettisoning of the rocket motors, while keeping the autogiros balanced with deft tweaks of the joystick. An on-screen display gives a running printout of your success rate, accurate to one-thousandth of a second! Err too often and the launch will be aborted.

Once in orbit, and now viewing the action from your craft, you'll need to master docking the lunar module with the command ship, getting your course and velocity just right, before starting your journey to the moon - when several mild-course corrections will have to be made. Your success here will depend on rocket burns of the proper duration at just the right time - and here again, fast reflexes and sharp co-ordination are all important. Indeed, there can be few games that demand such critical feedback from the joystick in response to the ever-changing screen display.

The lunar landing stage gets even more demanding as you gently manoeuvre your lunar module on course and then fine-tune its descent. Make a hash of it and all is not lost - your craft's onboard computer will allow you to make a further two attempts before banishing you to a prospect bleaker than a day at the tailor's with Patrick Moore.

Safely down, you're now off on the obligatory space walk to find Surveyor III, using the joystick to scoot safely over the surface without moving off-course or running out of oxygen. Your astronaut is cute and responsive and both this and the following stage is



quite fun by comparison with the really quite demanding and po-faced gameplay that has gone before.

The space walk segment has you chasing three satellites that have to be checked out, and here again some clever graphics give a very real three-dimensional feel to the challenge. Your mission accomplished, it's back to the mothercraft for a quick burn-up and, you hope, a safe re-entry and splashdown. Any mistakes here and you and your spacecraft will end up resembling a giant propelling pencil - all steel and charcoal.

There are times in Apollo 18 (quite a lot of them, actually) when you'll feel absolute exasperation at the demands that it makes on your dexterity and co-ordination. It also requires a fair degree of concentration - indeed, the flashing lights, strobing bars and other animation that adorn the on-screen control panels are sometimes too distracting by half - which is probably quite deliberate. Apollo 18 is by no means easy to play - which only means that you'll probably find yourself returning to it for just one more attempt long after many other games in your library have long been mastered and forgotten.

J.R.

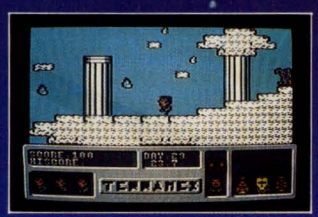
"GRAND SLAM" ENTERTAINMENTS

PRESENTS

TERRAMEX

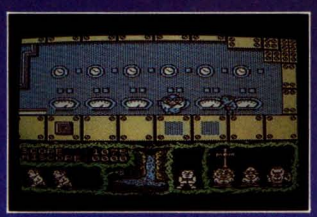
THE CARTOON ANIMATION GAME

Spectrum



Commodore

Atari ST



MSX

Amstrad

ADDICTIVE
COMPELLING
AND SPICED WITH
ENDLESS HOURS OF ZANY
HUMOUR, BRILLIANT
GRAPHICS AND ANIMATION.

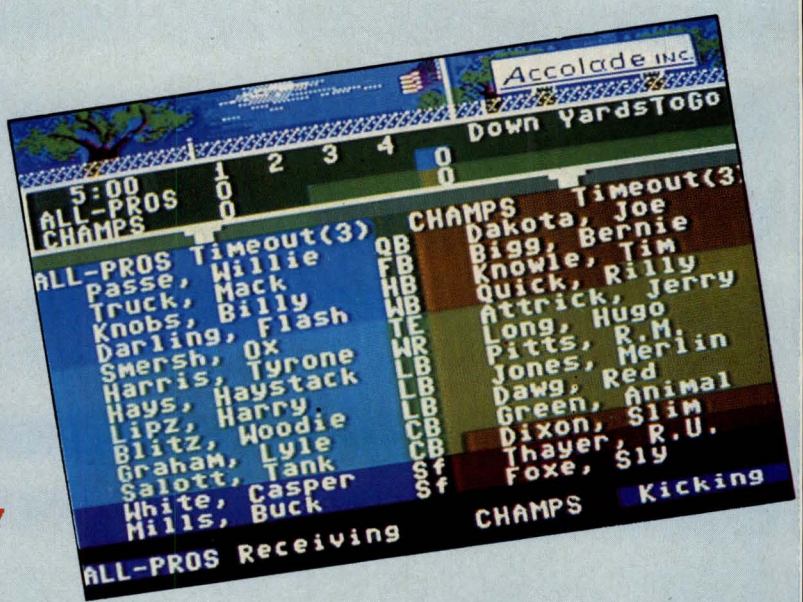
CAN YOU AFFORD
TO BE WITHOUT
THIS GAME?

Become one of the world's five reputable explorers and experience the dangers of a hazardous journey to find Professor Eyestrain and deflect the meteor to which only he has the solution.

Grand Slam Entertainments Ltd.,
Victory House, Leicester Place,
London. WC2H 7NB.
Telephone: 01-439 0666

AVAILABLE ON: SPECTRUM, AMSTRAD, MSX Cassette £8.95.
COMMODORE Cassette £9.95, Disk £14.95. ATARI ST, AMIGA £19.95.
AMSTRAD CPC Disk £14.95.

4TH & INCHES



US Gold

The main fault of American football games up until now has been their lack of realism. In most, you play the coach, selecting teams and plays before watching the game. Ocean's Superbowl had you controlling the players, but instead of looking like players, they were tiny dots. Accolade's 4th & Inches combines play selections with on-field action resulting in the very best US footie game yet.

Anyone who has played Hardball will be at home with 4th & Inches from the start. As with Hardball, before the game starts, you can choose to play against the computer or another player. From this screen you can view your players' statistics, and make any substitutions. A tap of the space bar takes you onto the field. The game is viewed from the side as in most football games, and starts with the kickoff. Time a press of the button with the kick to gain maximum length, before racing down the field to stop the opposition's progress. The team that kicked off will begin by defending.

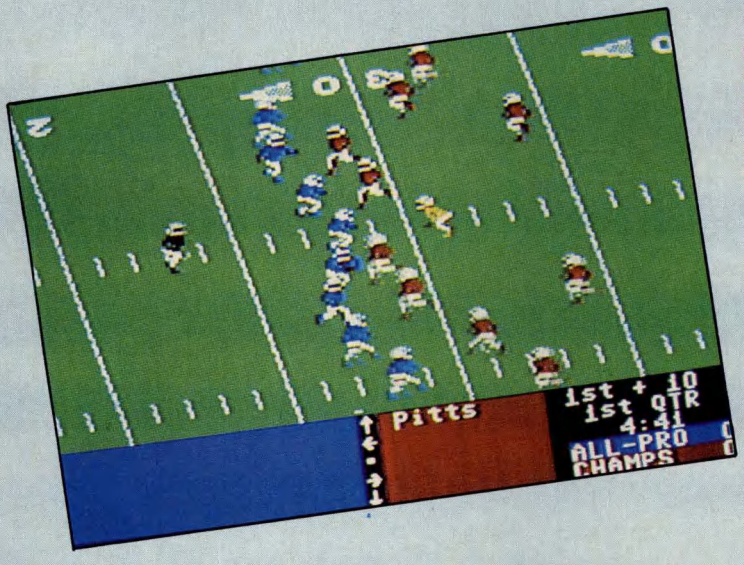
For the defending team, there are five primary stategies. These all have varying effectiveness against runs and passes. If you think the opposition will go for a run, you could go all out and select a short, but you'll be in trouble if they decide on a pass. Next, you can opt for a rush by a linebacker or defensive back, or neither. Finally, you choose which player to control. To someone who is unfamiliar with American football, it could be confusing at first, but it is not essential to know what you are doing in this part.

The offensive team has a multitude of passes and runs to choose from. Eleven formations are on offer, but the instructions fail to give any description of these. On the other hand, the running and passing plays are well presented with simple diagrams.

With the formalities over, the game can start. The defending player will control the man he chose earlier, and the offensive player will take control of the quarterback. As your team mates block the opposition, you press the button to pass the ball. Whether the ball is caught or not depends on if the receiver is in space. If he is, you take

control of him, and run like the clappers. If the defending player fails to tackle his opponent, there is always the chance that another player will.

"You might expect fast scrolling to be a problem with all those sprites on-screen, so it has been avoided by a system of zooming in on the action, which works just as well as scrolling."



You might expect fast scrolling to be a problem with all those sprites on-screen, so it has been avoided by a system of zooming in on the action, which works just as well as scrolling. The most important part of the game is the action, which runs at a fast pace, and captures the feel of a real game due to the realistic player movements. Playing against the computer is a lot of fun, and has about the right difficulty for me at the moment, but some skill levels would prolong its appeal for a single player. When played with two people its even more fun.

It is really satisfying to streak away down the line to score a 40 yard touchdown, and just as enjoyable to get involved in a bundle of players, recreating the scene from the cover artwork.

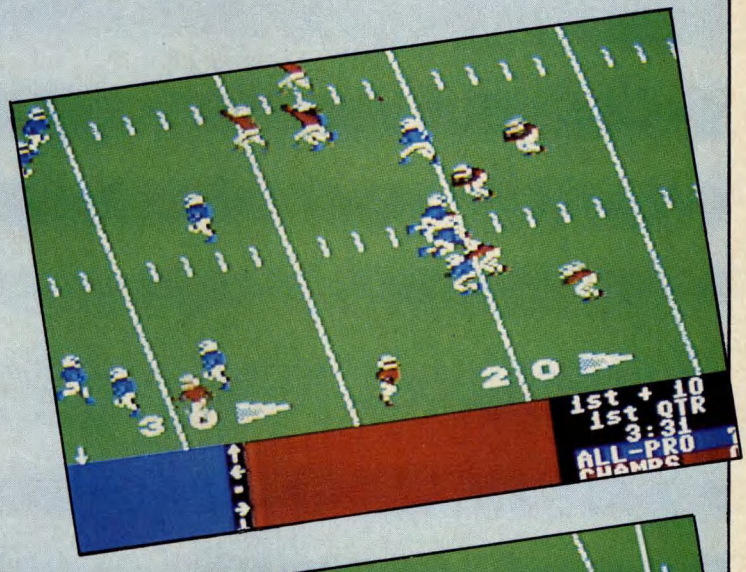
4th & Inches doesn't look half as good as Accolade's last sport sim Hardball, but is much more exciting to play. The sprites are a little stiff in their animation, but are quite adequate. A few of the jingles from Hardball have been included with some new ones. As far as sound effects go, the usual white noise crowd cheers and a few bleeps sound off now and then.

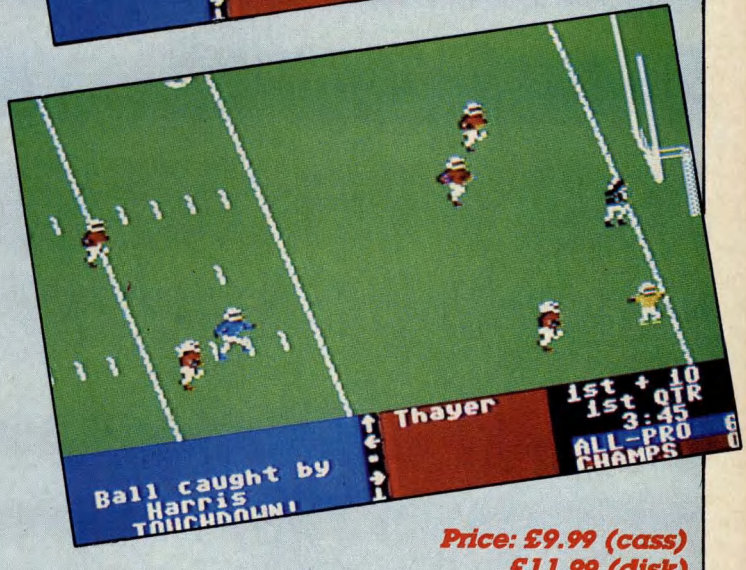
"Anyone with an interest in the game must on no account pass up the opportunity of playing this, easily the best computer version of American football around."

One of my few criticisms of it is that the instructions neglect to tell you the rules of the game; basically to advance ten yards up the field in every four plays and ultimately score a touchdown by running over the goal line with the ball.

The version I played was on disk and loaded a very small part between quarters, so this should be taken into account when considering the cassette version, but I can't see it being very different.

I'm not a particular American football fan, although I did watch the first half hour of the Superbowl (wow!), but even so I found myself getting totally involved in the 4th & Inches games. Anyone with an interest in the game must on no account pass up the opportunity of playing this, easily the best computer version of American football around. Even if you don't like the sport, 4th & Inches is still too terrific to miss. Highly recommended.





Price: £9.99 (cass)
£11.99 (disk)
T.H.

Graphics: 73%
Sound: 48%
Playability: 92%
Overall: 90%
Rating: Awesome

BAD CAT

"The graphics used are of a high standard, the events original and the sound is superb." **ST USER**

Screen shots from Amiga version.

Its the year 1984 and Los Angeles prepares for the Olympic Summer Games. The dignitaries and celebrities prepare their speeches, and await the huge crowds expected to attend. Beware there are still the straying city-dweller cats – despised by all. The infamous cats are well known for they are planning their own competitive games. Will Bad Cat live up to his name?

PC – **24.99d**

CBM 64/128 – **9.99t**, **11.99d**. AMIGA – **24.99d**

AMSTRAD – **9.99t**, **14.99d**. ATARI ST – **19.99d**

TOMORROW'S SOFTWARE TODAY

GO!

GO! Media Holdings Ltd., Units 2/3, Holford Way, Holford, Birmingham B6 7AX. TEL: 021 356 3388

Rainbow Arts

HORGAN'S HINTS

Perhaps this month, we should change the heading to "Horgan's Hint". Why? Well when I was experimenting with Datel's Action Replay Professional, I stumbled across a poke for up to 255 lives on Reaktor's Out of This World. Unfortunately, I haven't found the SYS number, so anyone wanting to enter it needs this or a similar cartridge, unless you can find the number yourself. Anyway, apart from my contribution, Sean and Ade Meads have donated a massive amount of pokes, and win this month's prize for their wacky 720 pokes.

C64

Out of This World:
POKE 1129, x change x to the amount of lives you want up to 255

```
720:
The first lot from the Meads
partnership should be worth a
snigger or two.  Load and reset,
then enter:
POKE 2398,173 for infinite lives
POKE 2314,(1 to 255) number of
lives
POKE 7452,173:POKE 8025,173:POKE
8435,173:POKE 8723,173 for infinite
tickets
POKE 11793,96 for infinite money
POKE 5592,173:POKE 8677,0 for
infinite time
POKE 5802,96 stops all sprite
collisions except bees
POKE 11915,96 stops all water
collisions (and shows 3D bugs!)
POKE 2267,173 stops all sprite
collisions and alien movement
POKE 2194,(1 to 255) amount of
starting money
POKE 2199,(1 to 100) number of
tickets to start with
POKE 12700,x:POKE 9050,1 change x
in first poke to 1-255 for jump
height (1=high, 255=low, 5=default
and 0=fly)
POKE 13199,96 stops all fence
collisions
POKE 7643,208:POKE 8205,240:POKE
8558,240 finishes all events
immediately except the ramp
POKE 12781,240 for points every
time fire is pressed

SYS 2128 starts the game.

Balloon Race:
Some pokes here for infinite
Richard Bransons:
POKE 19929,173 infinite lives for
player one
POKE 16632,173 infinite lives for
player two
```

Shoot 'em Up Construction Kit:
If you come across a game written by Jops and Crix's utility, this will come in handy.
Reset and type:
SYS 24576 to start in menu mode where you can select cheat mode.

Thunderbolt:
Load, reset and type:
POKE 28777, 169: POKE 28778, 0 to stop all sprite collisions
POKE 28982, 234 for a slow version of the game (how exciting!)
SYS 28672 starts the game.

1943:
Finding this a little too slow? If so, enter these pokes.
POKE 6704,96: POKE 6707,96 speeds it up
POKE 3395,169 for infinite lives

```
Athena:
More lives of the infinite kind
with this listing.  Enter it and
load the game.
10 FOR I=53120 TO 53177:READ A:POKE
I,A:C=C+A:NEXT I
15 IF C<> 7224 THEN PRINT "ERROR IN
DATA!":END
18 SYS 53120
20 DATA
162,0,189,163,207,157,181,1,232,224
,23,208,245,32,44,247,

30 DATA
108,245,169 32,141,202,2,169,181,14
1,203,2,169,1,141,204,

40 DATA
141,255,255,169,195,141,126,1,169,1
,141,127,1,96,169,173,141,105

50 DATA 59,76,0,128,0

Out Run:
Enter and run this listing.  The
computer will reset when the game
has loaded, so you can enter the
following pokes.
10 REM ** OUTRUN CRACK-SEAN AND
ADRIAN MEADS! **
20 FOR I=49152 TO 49185:READ A:POKE
I,A:NEXT
100 DATA
32,44,247,32,108,245,169,7,141,209,
8,162
110 DATA
16,189,24,192,157,255,62,202,208,24
7,76,16,8,169
120 DATA 208,141,201,4,76,0,4,0

When it resets, enter:
POKE 44049,96 to stop all
collisions
POKE 34686,173 for infinite time

Finally, enter SYS 38045 to start
the game.
```

Spore:
Load, reset and type:
POKE 6313,96 for infinite energy
SYS 4096 starts the game.

Arcade Classics:
Have you seen the second sheet in Space Invaders? If not, you're really missing something. All these space invaders come down the screen in rows until you shoot them! Now you can have infinite lives, if you really want to. Simply load, reset and type:
POKE 4166,173 for infinite lives
or
POKE 4136, (1 to 255) number of lives
or even
POKE 19463, (1 to 255) for number of lives on Asteroids
SYS 31506 to restart the game

Challenge of the Gobots:
Load, reset and type:
POKE 29311,173 for infinite Gobots
SYS 14384 starts the game.

Stifflip and Co:
Enter:
USE ORGAN to play some music
DEFACED to give access to part two.

Ace II:
On the hi-score table, enter:
DUSTY BUG to become immortal.

Voidrunner:
Type:
POKE 43,255:LOAD
then press play on the tape.
When the READY prompt appears, enter:
POKE 43,1: POKE 12653,173: POKE 14495,31 for infinite lives.
Then type **RUN.**

C16
This first cheat for the C16 comes from Michael Bonfield.

Soccer Boss:
If you're having trouble with Soccer Boss, this will sort you out. Load the game, reset and enter the following to start with 100,000,000 and in division 1.

```
6 DI=1: CU=1: CA=100000000: FOR N=1
TO 16:A$ (N)="*": NEXT: FOR N=1 TO 3:
SS$= (N) ="*": NEXT
242 TRAP 242
```

Run this to start the game.

Help is at hand with the following tip from Mike Peirce.

Yie Ar Kung Fu:
Alternating between the rising kick and ankle kick defeats all the opponents.

THE END
Before I go, I have to tell you that I received a letter from someone requesting pokes for the C64 version of Jet Set Willy II. I'm sure someone out there can come up with the goods, and how about one to put an end to death from heights and other such things? To get rid of possible errors in listings, any received on a cassette or disk would be much appreciated. Thanks.

Horgan's Hints
40 Bowling Green Lane
London
EC1R 0NE
Tony Horgan

LOOK WHAT THEY'RE DOING!! I'VE BEEN CUT IN HALF - PROTEST!!! (RIOT! REVOLT! (PLEASE)

Wanted — Dead or Alive!

A substantial reward (a half full tin of delicious Felix cat food) is offered for information on the whereabouts of ex-stable girl, blonde Maidenhead jet-setter Amanda Cridge a.k.a. Indonesian Nell.

A deperate fugitive, she could be setting up a Commodore Village in an island off Sumatra.

Until recently known to have used the alias of "Marketing Manager of Commodore UK', she is claimed to have occupied for at least three weeks the position of "marketing manager" of Sentinel, distributors of Wordperfect. However the glamourous, Yves St Laurent dressed Ms ('Tee Shirts Forbidden') Cridge has now disappeared without trace. Everyone at Sentinel denies ever having heard of the name Amanda and mention the word "Cridge" and they switch out the lights and go home. All ports, airports, underground stations and roundabouts in the vicinity of the River Thames are being closely watched. The missing Ms Cridge should be approached with caution (so should anyone who has worked for Commodore) for she is known to be an expert in the agressive use of miniature ponies. Any inside-or-outside-info should be sent to Don Supero Felixio C/o Casa Pepe Restaurant, Corby.

The well-known clairvoyant, Dean Barrett of the Burgess McLean College of Marketing and PR is rumoured to be helping police in their enquiries by reconstructing the crime in an Amiga video called "Amanda for Seasons". Mike Clarke is 47.

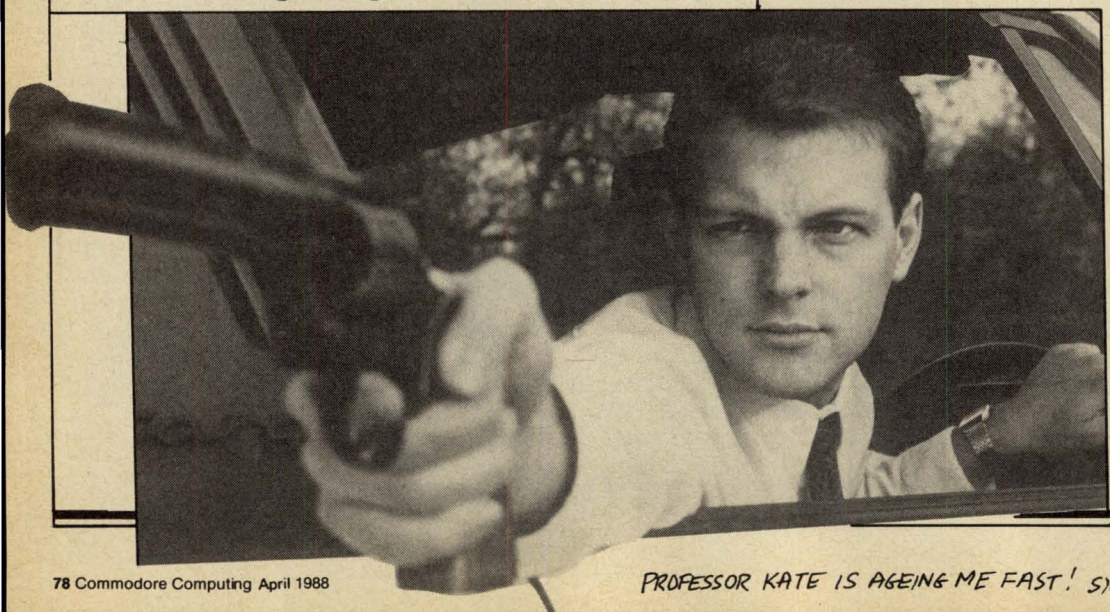
An attack of the Clamp by SUPER FELIX

When the Nicaraguan Contras (Motto: we never shoot anyone under 3 years old except on Fridays or if they are not carrying a Vic 20) had their money cut off by the U.S. Congress, they didn't blame Ronnie Reagan. They blamed CCI's (Acting) Colonel Bully Brown - the Oliver North of the Commodore Ad business. Bully these days is so rich he commutes from California to CCI Towers by private jet and CIA helicopter. So the Contras have been trying to force Col. Brown to put up the cash and give them free adverts in CCI. They know how close his Hampstead neighbour Activision is to Bully's heart. So it seems they have stopped Activision's glamourpussy Clare Hirsch from returning phone calls for the last six months (Can you think of any other rational explanation?) Apparently too, they have been keeping up the pressure by doing something terrible, so that all the really great hit games that Activision keeps launching simply disappear without trace. (Can you think of any other explanation for that, too?) But now they have gone to the limit and got the "Take 'em out and shoot 'em" military adman arrested. They planted one of these awful traffic clamps just inside the wrought iron gates of Col. Bully's Hampstead mansion. A quick phone call, in Spanish, told the police that he was using it as a doorstop. 40 Flying Squad fuzz descended on the startled adman and dragged him off to Hampstead's equivalent of Hill Street Precinct, threw him in a cell and went out to celebrate for 3 days on Nicaraguan tequila. Luckily Our Sacred Editor was educated at Dartmoor with the Police Commissioner and got the adboss out on $38 million bail - exactly the sum the Contras didn't get from Pres. Reagan. What a coincidence! Col. Bully has flown to L.A. in leg irons and handcuffs, and swears he's only ever had one dose of clap - sorry, clamp. Then he simply blew it off with a grenade he had handy. Let's hope Lord Justice 'Hanging Rod' Cousens agrees when Bully is hauled up before him shorlty. Col. Bully's daughter Helen, is starring in a double bill 'Kinky Californian Games' and 'Safety First Mates' by Richard Rospa—Virgin at the U.S. Gold Empire, Birmingham. Tickets 100 pesos each.

Highway Goad

Who is this violent Gunman? I hear you demand in sheer terror. Yes, gentle reader, he does uncannily resemble Chief Inspector Mikail Hodges of Scotland Yard's CRL (Catch Road Louts) Squad. Chief Inspector Mike — 'Road Warrior' to his friends and many enemies — hurtles up and down — and some times sideways too — the motorways of Britain in his Porsche Targa (Of course I paid for it out of my salary when I was a sergeant!). From his tyre burning heap he blasts anyone who is even in the same lane as his armoured Porsche. "I play a tough game in a tough world" Road Warrior Miguel growls, jerking his weapon about viciously and flashing it through the car window. "He boasts what Jack the Ripper did to the girls of the East End of London, I plan to do for Electronic Arts and the Slough Bypass. If I were you, when driving your mini-minor (or, in the case of Toy Horgan, Lamborghini Countach) I'd keep my eyes off Chief Superintendant Michel Hodges smoking exhaust as he makes his unique contribution to traffic safety, I'd hate to have to call the A.A. to pick up your pieces.

Clement Chambers will be released on Friday the 13th priced M4 (cassette) and M25 (disk).



SCOTT AND SALLIE - HAVE A HOT TIME AHEAD OF THEM IN MATDALA - MEOWW! SPECIAL PRICE TO SCOTTS' MATES AND MARY'S FRIENDS - MERSHAKES £2D A NOKD.

PROFESSOR KATE IS AGEING ME FAST! SIGNED S. FELIX OAP.

Charts

For the second month in a row, U.S. Gold's magic works its spell — Out Run is still up there at number one. But the smart money is betting that the ex-coin op smash is running out of speed and there is a bubbler that will shoot up next month straight to the top spot. So watch for it — Ocean's Platoon. Ocean have displaced their own last month's number two, Combat School, with the obviously very popular soccer game, Matchday. And Ocean have yet another new entry, Rastan, at number nine. Electronic Arts finally hits the Charts with a double-header — Accolade's Test Drive and their own Skate or Die!, which pushes out U.S. Gold's skateboard epic 720°at number ten. Another bubbling under for an entry next month is Microprose's Stealth Fighter and U.S. Gold have yet another potential smash with the Awesome-rated 4th & Inches.

For the Budgets, Kickstart II regains top spot and there is a new entry, Popeye, from the rising Alternative label. Codemaster gets a mover with ATV Simulator.

On the Amiga front, Novagen's Backlash enters at number one. A sign of the fast growing number of Amiga games is that there are two more new entries for the top five — Melbourne House's Xenon and Mirrorsoft's Dark Castle.

C64

	GAME TITLE	COMPANY		Price (£)	Rating
1	Out Run	U.S. Gold	★	£8.99	Crisp
2	Matchday	Ocean	↑	£8.95	Awesome
3	Combat School	Ocean	↓	£8.95	Awesome
4	Test Drive	Accolade	★	£9.95	Mega
5	Game, Set & Match	Ocean	→←	£12.95	Mega
6	Solid Gold	U.S. Gold	↓	£9.99	Awesome
7	California Games	Epyx	↓	£9.95	Awesome
8	Airborne Ranger	Microprose	↑	£14.95	Mega
9	Rastan	Ocean	★	£8.95	Crisp
10	Skate or Die	Electronic Arts		£9.95	Awesome

Budget Chart

1	Kickstart II	Mastertronic
2	Arcade Classics	Firebird
3	Grand Prix Simulator	Codemaster
4	ATV Simulator	Codemaster
5	Popeye	Alternative

Amiga Chart

1	Backlash	Novagen
2	Xenon	Melbourne House
3	Hunt the Red October	Grand Slam
4	Insanity Fight	Microdeal
5	Dark Castle	Mirrorsoft

★ NEW ENTRY

Opinion

Jeff Minter complains of prices, berates software developers, meditates cloning himself, recommends Pink Hoyd and an ECO... Boredom isn't setting in on the hills of Wales...

Greetings again, O Commodore-friends, from the land where the beer is cheap, there's plenty of sheep, and where it's usually chuckin' it down with precipitation. I've now got sufficiently far into 'Space II that I'm actually starting work on a 5-minute video demo to promote the video album which I'll be doing with musician Adrian Wagner using the new light-synth. It's a lot of fun; I have this really neat blastoff sequence doe; you get a first-person 3-D view out of the space ship window as it zooms across a mathematically-generated landscape and then zooms up into orbit. The next bit to be done is the cutting-in of the HyperDrive engines, which will involve a load of messing with the new star field generator; should be a blast.

I was somewhat freaked out by the Arkanoid (Amiga) review last month. This game exemplifies the dichotomy between the ST and Amiga worlds at the moment: how come exactly the same program (well, given the very nature of the beast, a version of Arkanoid on any 16-bit machine with decent graphics has to be identical between machines) costs you fourteen quid 95p on the ST, and 25 quid on the Amiga?? And yet, amazingly, the reviewer actually describes it as 'a good buy' for gamesplayers! Yow! Why wasn't he righteously indignant that such a simple piece of programming (Breakout clones of the simplicity of Arkanoid being pretty easy to program — I once put together a little two-player version in ONE DAY when it was snowing too hard outside to get any ski-ing done) should cost almost twice what it does on the ST just 'coz it was programmed in the 'States for the Amiga? What Amiga owners really need is not dumb acceptance of higher prices for Amiga software; we should demand parity with ST pricing. It's bad enough that the basic Amiga system costs more than the ST without expecting those who shell out for the superior machine to pay double duty for all the software too. Twenty quid max is the logical level for 16-bit game software, unless of course it's really special and has had a lot of development effort put into it. I mean, Star Wars was worth twenty quid to me; a dam' near perfect conversion of the arcade game, and with some brilliant 3-D vector graphics programming, technically a whole order of magnitude more difficult than a two-dimensional sprite-based bat-and-ball hack.

Mind you, it's not the fault of the Amiga that software prices tend to be too high. A lot of the blame lies with UK software producers reluctant to commit to Amiga programming, meaning that software has to be sourced from the 'States, where they always have had loot to throw around and charged ridiculous prices for their games. Perhaps Jez San's new system, under which it's possible to write a single piece of code that'll run on either the ST or Amiga, is the answer. Certainly I'm interested in it; I'd love to get into Amiga programming but I can only write one thing at a time; being the last of the backroom hackers and not allied to any of the 'big' software houses, I have no team of programmers to assign to different machines; my software is hand-built, not mass-produced. A development system to allow me to develop programs on two machines at once would be the next best thing to cloning myself. I look forward to seeing the results of the new system when Starglider II comes out. I'll bet it's really good; Jez could code circles around just about any 68000 hacker you could name. If the new system works well he stands to make himself even richer than Starglider must already have made him, and deservedly so.

I guess my favourite game at the moment is probably ECO, the weird one by Denton Designs. Its appeal is odd, really; there's no scoring as such, the only objective being to evolve into successively higher life forms, and most of the game can be played on autopilot anyway by holding down the AutoMunch or AutoMate buttons. I can readily evolve into a human but I must admit that I prefer to be a horse. (Well everyone knows that I'm fundamentally weird). Judging by the preview screenshots, quite a lot was actually taken out of this game before it was released (a nice-looking planet edit screen in particular). Mind you I've only got the ST version, so maybe those extra screens are for the Amiga version only.

(Pause to make a cup of tea and light one of my nice new patchouli joss sticks).

Nice to see, too, that the author of the new Thalamus thrash was obviously a fan of both Psychedelia and Batalyx (which had a Pause Mode with Psychedelia in). His 'Off Duty' mode bears a striking resemblance.

Anyway, I shall finish this now, I've got more work to do on that video and I have to modify the 'code to save files generated on the Internal Sequencer module. (The Bug That Printed Zeros Forever has been well and truly vanquished). I shall keep an eye on the '64 and Amiga markets in the forlorn hope that maybe someone, somewhere, will manage to make it into the charts with some original software. 'Out Run' top of all three main charts last time I looked. Public amazing the way they lap up all this US Gold conversion dross. Got the brains of sheep with none of those animals' endearing physical attributes. One of 'ECO' worth ten Out Runs anyday....

Some good news this month: I got tickets to go and see the World's Greatest Ever Rock Group at Wembley this August. Go out, all you, and buy Pink Floyd tickets IMMEDIATELY. See'ya there....

JM

TURTLESOFT

TURTLE PRICES ARE THE ONES TO JUDGE THE COMPETITION BY
WE ARE SURE YOU WON'T FIND LOWER PRICES AND FREE DELIVERY
FIRST CLASS SERVICE AT FIRST CLASS PRICES

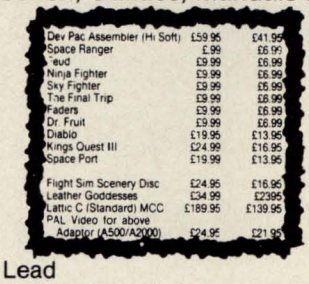
AMIGA HARDWARE

★ **STOP PRESS** ★
PHONE FOR SPECIAL DEALS

	RRP	OUR PRICE
Amiga A500 Keyboard/Mouse/Drive	£499.99	**£449.95**
Amiga A500 + A520 Modulator	£524.98	**£469.95**
Amiga A500 + Philips 8533 Colour Monitor	£819.94	**£709.95**
Amiga A500 + Philips 8833 Stereo Colour Monitor	£829.94	**£719.95**
Amiga A500 + Cumana CAX354 Second 3.5in Drive	£649.94	**£559.95**
Amiga A500 + Cumana 3.5in Drive + Philips 8533 Colour Monitor	£969.89	**£819.95**
Amiga A500 + Cumana 3.5in Drive + Philips 8833 Colour Monitor	£979.89	**£829.95**

★★ All Amiga A500 come with Games Software 3-4 titles FREE — Can Vary ★★
★★ As well as Delux Paint, Basic, Workbench, Utilities, Manuals and Tutorial ★★

AMIGA PERIPHERALS


Dev Pac Assembler (Hi Soft) £59.95 £41.95
Space Ranger £.99 £6.99
Feud £9.99 £6.99
Ninja Fighter £9.99 £6.99
Sky Fighter £9.99 £6.99
The Final Trip £9.99 £6.99
Faders £9.99 £6.99
Dr. Fruit £9.99 £6.99
Diablo £19.95 £13.95
Kings Quest III £24.99 £16.95
Space Port £19.99 £13.95
Flight Sim Scenery Disc £24.95 £16.95
Leather Goddesses £34.99 £23.95
Lattic C (Standard) MCC £189.95 £139.95
PAL Video for above Adaptor (A500/A2000) £24.95 £21.95

	RRP	OUR PRICE
Amiga A1010 Second 3.5in 880k Disc Drive (A1000 or A500)	£249.95	**£209.95**
Cumana CAX354 880k Drive 3.5in (A100 or A500)	£149.95	**£119.95**
Amiga A1084 Colour Monitor (NEW MODEL) Special Offer	£379.95	**£279.95**
Philips CM8833 Stereo Colour Monitor + Lead	£329.95	**£279.95**
Philips CM8533 Colour Monitor + Lead	£319.95	**£269.95**
Philips CM8852 Colour Monitor + Lead	£349.95	**£299.95**
Amiga A521 Modulator (To connect To TV)	£24.99	**£22.99**
Amiga A501 512k-1040k Ram Upgrade + Clock	£113.85	**£99.95**
Panasonic KXP-1081 Printer, Epson Codes. NLQ. 120CPS + Lead	£279.95	**£174.95**
MP165 Printer, Epson Compatible. NLQ. Draft 165CPS + Lead. New Model	£263.35	**£199.99**
MP135 Printer, Epson Compatible. NLQ. Draft 135CPS + Lead	£194.35	**£159.99**
MP200 80 Col Printer, 200CPS. Epson Codes. NLQ 40CPS + Lead	£343.85	**£294.99**
MP201 136 Col. Printer, 200CPS. Epson Codes. NLQ 40CPS + Lead	£401.35	**£329.95**
MP480 80 Col. Printer, Epson Codes. NLQ 480CPS + Lead	£424.35	**£339.95**
MP26 132 Column Daisywheel Printer, 26CPS + Lead	£299.95	**£249.95**
MP40 158 Column Daisywheel Printer, 40CPS + Lead	£435.85	**£349.95**
Midi Master Interface (State A1000 or A500)	£34.99	**£29.95**
DSDD 3.5in Discs + Library Case (10) — LOW LOW PRICE	£22.95	**£14.95**
Quality Branded 3.5in DSDD Discs (10) — LOW LOW PRICE	£27.95	**£18.99**

Mouse Mats. Specal Price £4.95

AMIGA 500/1000 GAMES SOFTWARE	RRP	OUR PRICE
Adventure Construction Kit	£29.95	£20.95
Alien Skate	£14.95	£10.49
American Football	£24.99	£16.95
Amiga Karate	£19.95	£13.95
Arctic Fox	£19.95	£13.95
Arena/Bratacccus Pack	£34.95	£23.95
Backlash	£19.95	£13.95
Balance of Power	£29.95	£20.95
Barbarian	£24.95	£16.95
Bards Tale	£24.95	£16.95
Baseball	£24.99	£16.95
Basketball	£24.99	£16.95
Bureaucracy	£34.99	£23.95
Chessmaster 2000	£24.95	£16.95
Crazy Cats	£24.95	£16.95
Crunch Factory	£9.99	£6.99
Dark Castle	£24.95	£16.95
Deep Space	£34.95	£23.95
Defender of the Crown	£29.95	£20.95
Deja Vu	£29.95	£20.95
Deluxe Paint II	£14.95	£10.49
Deluxe Print	£24.95	£16.95
Demolition	£9.99	£6.99
Diablo	£19.95	£13.95
Dr Fruit	£9.99	£6.99
Faerytale Adventure	£49.95	£37.95
Final Trip	£9.99	£6.99
Flight Simulator II	£49.95	£37.95
Flight Simulator Scenery Disc	£24.95	£16.95
Fued	£9.99	£6.99
Galaxy Fight	£12.95	£8.99
Garrison	£24.95	£16.95
GoldRunner	£24.95	£16.95
Golf	£34.95	£23.95
Gridstart	£9.99	£6.99
Gridiron	£24.95	£16.95
Guild of Thieves	£24.95	£16.96
Hardball	£24.99	£16.95
Hitchhikers Guide	£29.99	£20.95
Hollywood Strip Poker	£19.95	£13.95
Hunt for Red October	£24.95	£16.95
Insanity Fight	£24.95	£16.95
Impact	£14.95	£10.49
Jinxter	£24.95	£16.95
Kampfegruppe	£29.99	£20.95

AMIGA 500/1000 GAMES SOFTWARE	RRP	OUR PRICE
Karate Kid Part II	£24.95	£16.95
Karting Grandprix	£9.99	£6.99
King of Chicago (Now avail)	£29.95	£20.95
Kings Quest III	£24.99	£16.95
Knight Orc	£19.95	£13.95
Land of Legends (Soon)	Phone	Phone
Leaderboard (Not A500)	£24.99	£16.95
Leaderboard Tournament	£9.99	£6.99
Leisuresuit Larry	£19.95	£13.95
Leviathan	£19.95	£13.95
Leather Goddesses of Phobos	£34.99	£23.95
Lurking Horror	£29.95	£20.95
Marble Madness	£19.95	£13.95
Mean 18 Golf	£29.95	£20.95
Mech Brigade (Soon)	£29.99	£20.95
Mission Elevator	£19.95	£13.95
Moebious	£19.95	£13.95
Mouse Trap	£14.95	£10.49
Ninja Mission	£9.99	£6.99
Ogre	£24.99	£16.95
Pawn	£24.95	£16.95
Phalanx	£9.99	£6.99
Phantasie III	£24.99	£16.95
Plutos	£14.95	£10.49
Portal	£34.99	£23.95
Q. Ball	£19.95	£13.95
Roadwar 2000/Amiga each	£29.95	£20.95
Roadwars	£19.95	£13.95
S.D.I.	£29.95	£20.95
Shanghai	£24.99	£16.95
Silent Service	£24.95	£16.95
Sinbad & Throne of Falcon	£29.95	£20.95
Sky Fighter	£9.99	£6.99
Sky Fox	£14.95	£10.49
Spaceport	£19.99	£13.65
Space Battle	£9.99	£6.99
Spaceranger	£9.99	£6.99
Star Glider	£24.95	£16.95
Super Huey	£19.99	£13.95
Swooper	£19.95	£13.95
Terrorpods	£24.95	£16.95
Test Drive	£24.95	£13.95
Uninvited	£29.95	£16.95
Vaders	£9.99	£6.99
Wizards Crown (Soon)	£29.99	£20.95

AMIGA 500/1000 BUSINESS/ UTILITY SOFTWARE	RRP	OUR PRICE
Aegis Animator/Images	£103.50	£83.95
Aegis Artpak I	£23.00	£18.99
Aegis Digal (Comms S/Ware)	£59.95	£46.95
Aegis Draw	£69.95	£55.95
Aegis Draw-Plus	£184.00	£149.95
Aegis Impact	£63.25	£51.95
Aegis VideoScape 3-D	£143.75	£116.99
Aegis-Sonics	£59.95	£46.95
Cambridge Lisp MCC	£149.95	£116.95
CLImate	£34.95	£27.99
Delux Music Construction	£69.95	£49.95
DigiPaint	£49.95	£39.95
Instant Music	£29.99	£20.95
K-Seka 68000 Assembler	£79.95	£63.95
Lattice C Ver. 3.10 (Standard) MCC	£189.95	£139.95
Lattice C (Developers) MCC	£299.95	£249.95
Marauder II	£34.95	£22.95
MCC Macro Assembler	£69.96	£54.95
MCC Pascal	£89.95	£69.95
MCC Shell	£49.95	£38.95
Modula 2 (Standard)	£99.95	£77.95
Modular 2 (Developers)	£149.95	£116.99
Music Studio	£34.99	£23.95
Pagesetter	£113.85	£99.95
PAL Video Digitiser	£199.00	£184.95
PAL Video Digitiser Adaptor (A500/A2000)	£24.95	£21.95
Pro-Midi Interface (for below)	£59.95	£49.95
Pro-Midi Studio Software	£185.00	£149.95
Scribble II	£89.95	£69.95
Soundscape Sound Digitizer	£124.95	£99.95
Superbase Personal	£99.95	£79.95
Word Perfect (NEW)	£293.25	£254.95
Zuma Fonts Vol 1, 2, 3 (each)	£39.95	£31.95

Post: Send Cheques/P.O. or Visa/Access details to the address below. Phone: Call 0476 60488 24 Hour Service with your Visa/Access details.

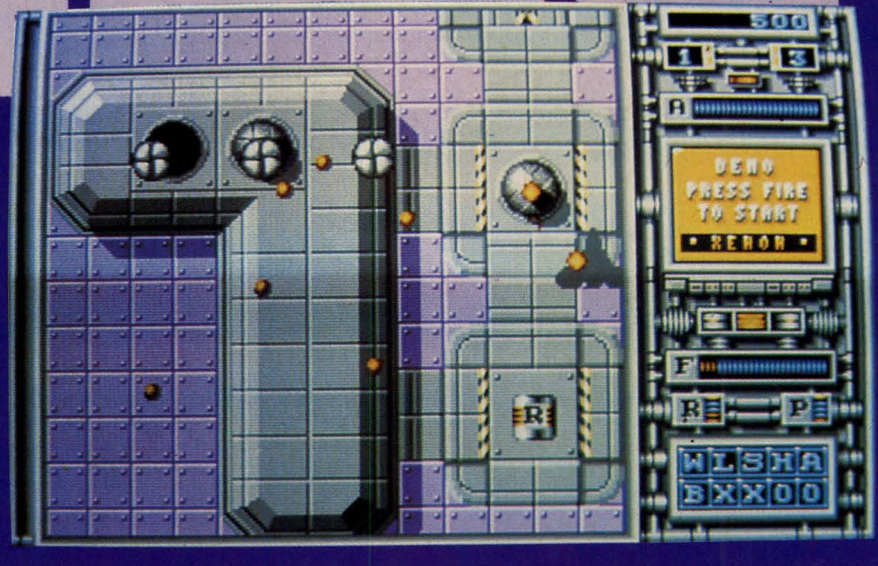
Turtlesoft Dept CC15, Unit 3, The Oldmalt House, Springfield Road, Grantham, Lincs NG31 6RY

Subject to availability, all items are despatched within 24 Hrs. E&OE.

Just because you don't see it — Doesn't mean we haven't got it — Call for Details!

VISA

XENON

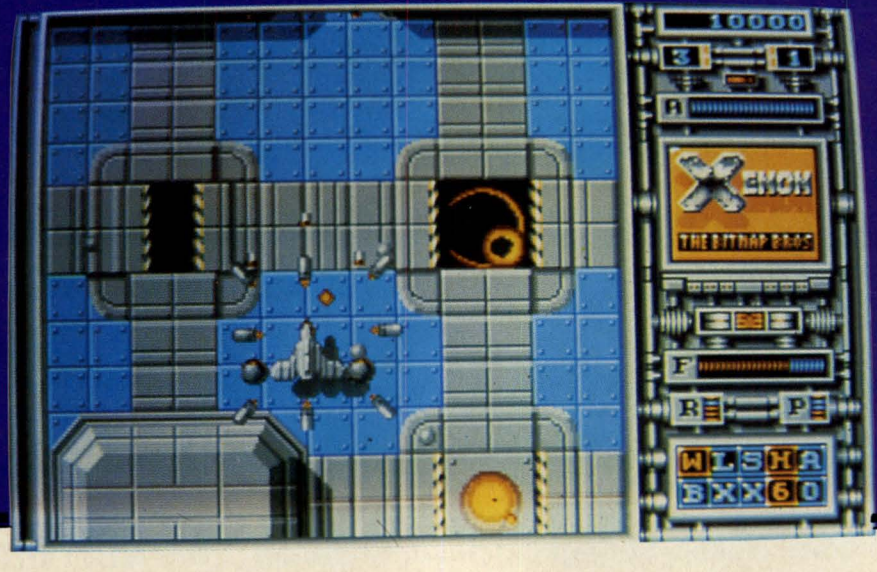


It's hard to beat a good blaster, and this one will be especially difficult to beat. Xenon is the first game to be released on the Melbourne House 16-bit label, and is everything a first release should be.

Xenon is by no means original, and takes elements from most vertically scrolling space games, with just a few new ones. The basic idea is to negotiate four levels of nasty alien beings and machines of progressive difficulty.

Select one or two players and the game can start. As with most games of this type, a status panel to the right keeps track of score, fuel etc., with a VDU in the centre. Before the action gets underway, the VDU zooms in on a robot-like man who announces "Sector One", and does the same for each of the other sectors. The digitised graphics are very smooth, and the sampled voice, although quiet, gives excellent first impressions.

Your craft has been designed to be adaptable to its surroundings, and can transform from a land-based vehicle, to a more conventional space ship. As you would expect, its weapons are basic to begin with, just a single cannon. Blasting a few rotating gun turrets soon earns you more fire power in the form of wing-mounted cannons. Apart from the usual bas-relief landscape and aliens, there are some harmless looking ladybirds that absorb a shot before dying. This first level has some very impressive effects, such as the explosions, and the guns that rise up out of the ground.



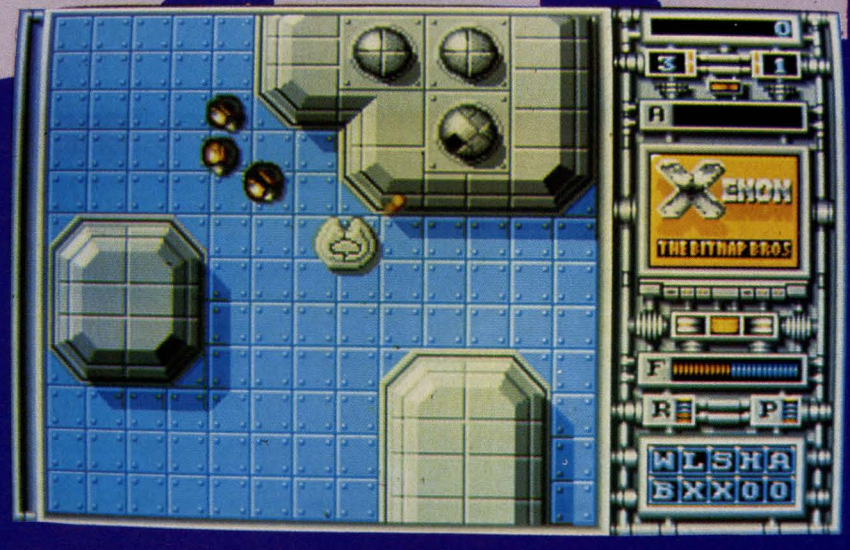
"This first level has some very impressive effects, such as the explosions, and the guns that rise up out of the ground"

Your weapons are not limited to wings; super lasers, shields, homing missiles and up to three balls that follow you about zapping everything in their way are all yours for the taking. With a bit of practice, you could have most of these throughout the game.

When the half way stage is reached, a mothership has to be continually zapped in its weak

XENON

Melbourne House



spot until it blows. Another has to be dealt with at the end of the level. The level one motherships lack a bit of imagination, but consequent ones get bigger and better. There is a change of scenery in level two as you're confined to spaceship mode. Flying through a dark tunnel, avoiding the sides, the aliens get a lot tougher, perhaps a bit too tough, but they also get more detailed. Not only are they bigger, with more powerful guns, but they take a good amount of laser fire to destroy.

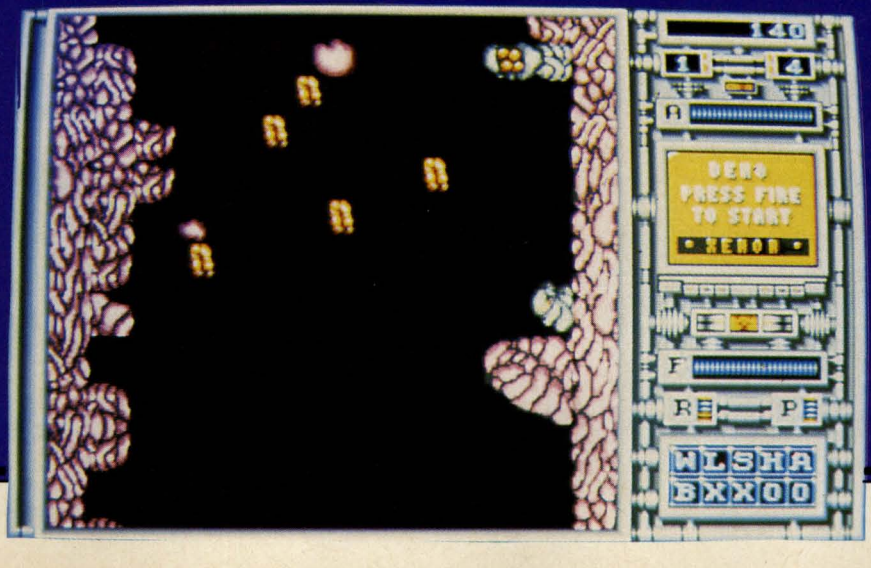
Sector three returns to the style of the first level, and the final sector is similar to the second with complex metallic ships replaced by slimey blobby things.

Its difficulty seems just about right to keep it challenging, whilst avoiding too much frustration.

Getting through the sectors is going to take a while, but should still hold your interest long enough to keep you trying. The game isn't without its faults, playing through the first level each time can be a mite tedious, and a bit more weaponry at the start of the second level would have been useful. Changing between the two ships can be done by pressing the spacebar, but most people will opt for a quick wiggle of the stick in the same method that proved so popular in Wizball.

David Whitaker has done a good job with the music. The samples he has used don't overshadow the game, but play along nicely in the background.

Xenon does have the odd annoyance, such as when the ship transforms when you're simply wiggling the stick to avoid the flak, but in general is great fun. Graphics, sound and gameplay are all very good, and it is very reasonably priced at £19.99. If you haven't yet got a scrolling zapper in your collection, Xenon is the one to go for at the moment, and even if you have, I'd still recommend it as one of the few games that has reached a true 16-bit level in design and quality.



Price: £19.99

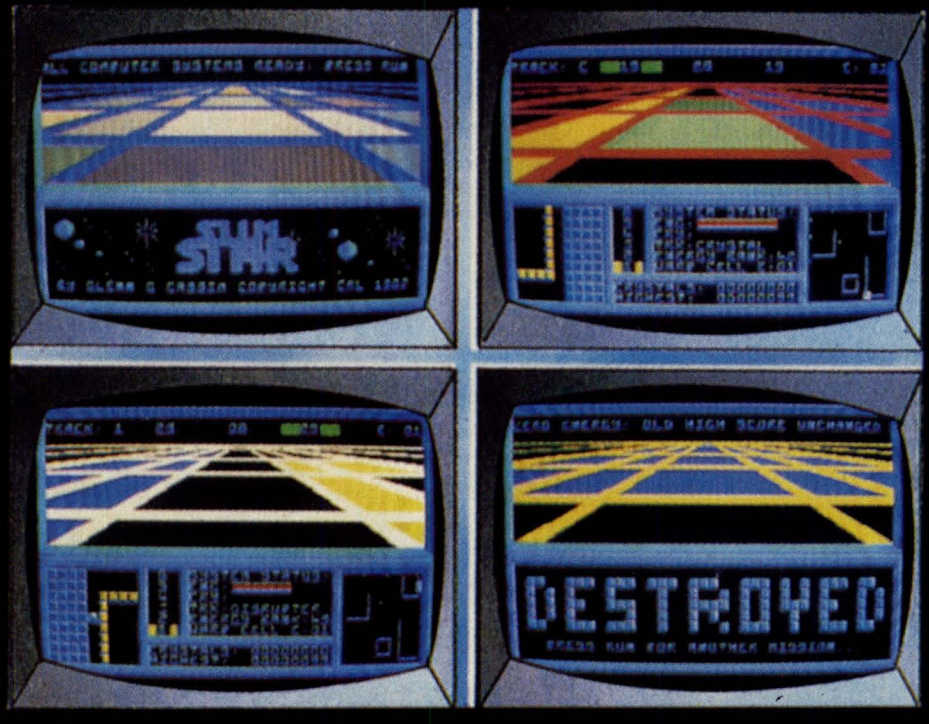
T.H.

Graphics: 9
Sound: 8
Playability: 8
Value: 8

C16

MEGA

Sun Star



CRL The Dream Makers

Sun Star is the most professionally packaged C16 I've seen for a long, long time, and it makes a change from the usual "Oh it's only a C16 game, let's cut a few corners on this eh? Who's to know?" approach that many companies seem to use, when dealing with C16 software.

It is by CRL, who must have been one of the first companies to make C16 games — achieving huge success with the Berks trilogy of which just above every C16 owner has heard of, and which must be in their collections.

The plot of Sun Star revolves around the tired and almost flogged to death scenario of energy in the future. The general idea is that the 21st century XXarion Star Corporation (here we go) has placed a solar energy grid in orbit around the sun. The grid uses the sun's energy to create special energy crystals which allow space craft to travel at the speed of light, and were so successful that by the 22nd century there were 16 of them in orbit around the suns of many star systems in the galaxy.

But now due to the build up of unstable energy pulses, it is become impossible for normal craft to collect energy crystals from the orbital grids. Note that I said it has become impossible for "normal craft" to collect energy crystals, because — yes you've guessed it — a craft has been designed to withstand the instability of the grids and someone's going to go and collect as much crystals as possible, this someone is you, and yes, it is dangerous.

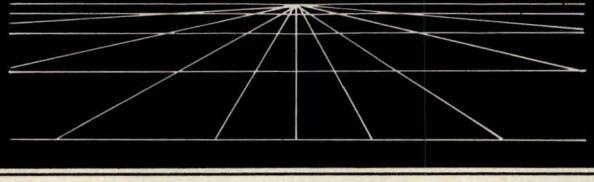
The game reminds me strongly of Trailblazer by Gremlin, in the way it's set out, with its multicoloured 3 dimensional squares, which can hurtle towards you at some pretty fierce speeds but, that's where the similarity ends — Trailblazer seems easy in comparison.

As I've said you must collect as much crystal energy from the grid as possible but this is made difficult by several things, the least of which is trying to get the hang of moving around the grid without bumping into anything dangerous. As you start up the game you'll notice that you have two radars, the first is a long range one, which shows you where the crystals are, and the second is a magnified view of our immediate area.

The crystals are green squares which can be obtained by shooting a disrupter pulse (white square), when you've shot the pulse a few times, you'll find that a green square appears — you must collect this crystal before it runs out of energy or you'll find your previously collected crystals getting burnt to a frazzle, and having to start all over again. Once you've collected 10 crystals you can move on to the next level.

This game looks good, is presented well, and has a competent methods of control etc. but it could have been developed a little more and it would have been even better. But as it is it is excellent value.

C.K.



Price: £9.95
Graphics: 78%
Sound: 40%
Playability: 67%
Overall: 67%
Rating: Mega

C16

CRISP

BMX Simulator

Code Masters

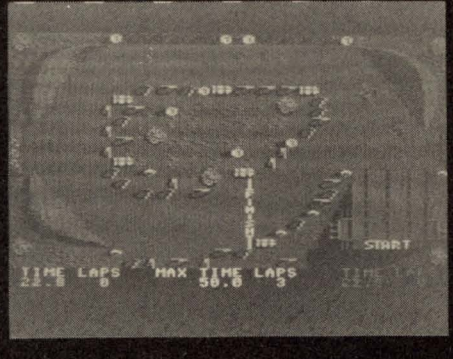
You really have to give Codemasters credit don't you? They seem to manage to get free publicity from magazines every month, claiming to be selling 10,000 units of this and 20,000 units of that. Now, in their attempt to make C16 owners buy this game, they've described it as the "ultimate two player game". Well I don't know about you but I reckon a few Gaunlet, Druid and Mega Apocalypse fans might disagree with them slightly. They describe BMX Simulator as "a brilliant version of the epic 64 game . . . amazing realistic simulation". Don't you think that their opinion of the game might be slightly biased. Yes, I thought you might.

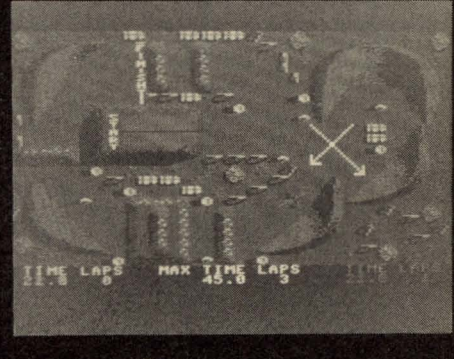
So you will not be surprised to find that the game is not as good as the blurb makes it seem, though it is a good game in its own right. It is played à la super sprint, with a birds eye view of the track and players, and the graphics of the course are really something else — with excellent colours and a really effective usage of shading, making the objects seem 3 dimensional. I'd even go as far as to say that the graphics of the C16 backgrounds are as good as the same ones on the C64 — which is an achievement, considering the massive difference in memory. The sprite you have to control though is ghastly — blocky through and through, and the computer controlled player is almost exactly the same. I also noticed that sometimes your fire blends in exactly with the track, so you often lose track of the direction you're going and then go on to lose the race. This is very frustrating and it often happens just as you are about to make it to a new course.

The control method is pretty good — left and right for rotate, fire button for forward, and back for reverse, but sometimes, when you crash you automatically try to go forward and find yourself crashing again, the compute aids in this by putting you in exactly the opposite direction to the one you want to go in.

Despite all these frustrations BMX Simulator comes out pretty well and compares favourably with the other bike games on the C16. I think that you might find it a bit frustrating to get into since, unlike the 64 version, the bike doesn't seem to slow down when you stop pedalling, landing you in second place very often — but once you're persevered for a while you'll be rewarded with a very entertaining game, that really excells itself in two player mode.

C.K.





Price: £1.99
Graphics: 67%
Sound: 38%
Playability: 73%
Overall: 68%
Rating: Crisp

BARGAIN BUCKET

In recent months, the number of budget games released has reached epidemic proportions. This month we thought a brief look at the best cheapies around was in order, so here it is.

Re-release Round-up

These have all been released in the past, and are now priced at £1.99.

Way of the Exploding Fist (Ricochet): The original home computer karate game, including sixteen moves was amazing when it was new. It's still enjoyable, but it is rather slow and jerky in comparison to International Karate. Not bad at the price though.

Skate Rock (Ricochet): The blocky, simple graphics hide what can be an enjoyable game. It's a bit like Paperboy on a skateboard, which again is passable for the price.

Bazooka Bill (Ricochet): Fans of Green Beret would do better to stick with the real thing than buy this second rate clone. It's not all bad, but small things like Bill's invisible forearm and legoland graphics spoils it.

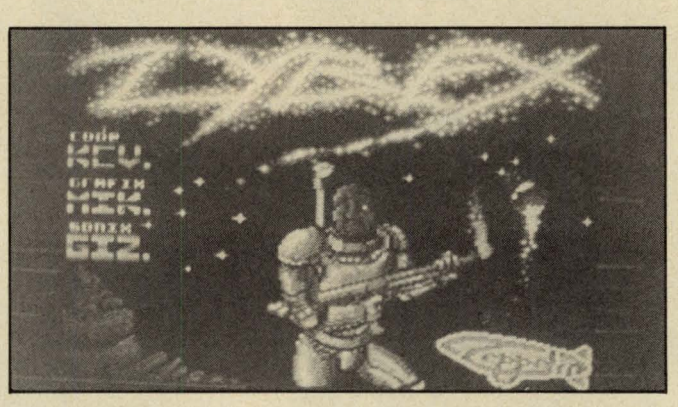
Ghostbusters (Ricochet): The game lacks variety, but is boosted a great deal by some lively music and great speech. Ultimately repetitive, but certainly worth the asking price.

Knuckle Busters (Ricochet): Taking the part of an escaping prisoner, you punch and kick your way through six zones to freedom. This is very similar to a coin-op I saw once (I can't remember the name) and gets monotonous before long.

BMX Hyper Biker Simulator (Top Ten): This is really getting on, and it shows. Blocky graphics, annoying tunes and poor gameplay make this one a miss.

Pick of the bunch

New cheapo company Zeppelin Games have kicked off with a quality zapper, and Firebird and Bulldog rise above the rest with I, Ball II and Scumball.



Zybex (Zeppelin): For one or two players, Zybex is a traditional space shoot 'em up in the style of Side Arms. The two players control a couple of jetpacking heroes, bolding zapping aliens where no man has zapped before. Of course there are a number of weapons available to the players, which are picked after killing attack waves. Selecting the weapons is easier than in most games, as firing is constant, and the button is left free to choose the weapon. With so many similar games around, it could only really sell as a budget game, but as such, does very well. The graphics are good, only spoilt slightly by the unrealistic starfield, and the sound is OK. Zapper fans should find this a very worthwhile buy.

Scumball (Bulldog): This multi-screen arcade adventure is very derivative of Underwurlde and Starquake. Controlling a small armless droid, you take on a mission to destroy the slime monster that has over-run the sewers with an army of deadly mutations. Each screen is very colourful and together they form a maze. Using the ledges and platforms, you negotiate the screens, dodging the shooting nasties. There's nothing new about Scumball, but the design and smoothness of the graphics are very impressive for a cheapo. Its similarities to Starquake are many, but this hardly detracts from the fun of exploration and shooting.

I, Ball II (Firebird): I, Ball's sequel takes the original idea, and replaces scrolling levels for single screens. The object is to reach the exit of each screen before the time limit expires, or you loose all your lives. All the usual nasties float around the platforms, and have to be dodged or shot to avoid instant death. I Ball moves very quickly, and it's this that gives the game its difficulty. Bouncing around the screen often gets out of hand, ending in a collision with a nasty sprite. The speech was the best bit of the original, and a few more cheeky comments have been included in the sequel, although these are a little hard to make out at times. I prefered I, Ball, but this is still good at the price, and is fun for a short while.

T.H.

RS232 INTERFACE 64, 128 or Plus/4* £34.99

Measuring only 12 x 68 x 57mm, the smallest and neatest unit available. Conforms to Commodore 1011A user-port standard. Compatible with BASIC, Easyscript, Superscript, Superbase, Mini Office, Script Plus etc. Connect to RS232 printes, modems and other devices. Supplied with 1 metre of cable (add 75p per extra metre*) terminated with a male (female*) 25-way D-connector, or a custom cable made to your requirements. Our after sales service for problem printers guarantees to get you up and running. Supplied with a scrolling terminal emulator program and utility software on **tape or disk***.

IBM PC FILE TRANSFER UTILITY .. £9.99

Captures text or binary files via the COM1 RS232 port. Supplied on a 360K IBM format 5¼in disk. Simple instructions provided by on-line help.

VIEWDATA TERMINAL 64 or Plus/4 tape/disk* £29.99

Access Prestel, Micronet, CityService etc. Works with any user-port RS232 interface and 1200/75 modem. Displays all viewdata mosaic graphics, double height, hide/reveal and flashing characters in seven colours. Only £14.99 when ordered with the RS232 interface.

CENTRONICS CABLE 64, 128 £18.99

Compatible with Easyscript, Superscript etc. Driver for BASIC on disk or tape.*

6502 ASSEMBLER 64 or Plus/4* tape/disk* £12.99

A sophisticated two-pass symbolic assembler and text editor which supports tape and disk filing. The assembler, editor, source and object code may all be resident in memory simultaneously, facilitating rapid and interactive code development. No other assembler is quicker to use.

Z80 EMULATOR/ASSEMBLER 64 disk £12.99

A unique integrated Z80 development package. The emulator compiles Z80 source code into optimised 6502 which runs on the 64 at about one sixth the speed of a 2MHz Z80. The cross-assembler generates hex or binary Z80 object files. The disk contains a powerful editor and example programs.

Please specify * options.

Send cheque/PO or order by

Prices include VAT and P&P. Overseas orders add £2.50

Allow up to 1 week for delivery

YORK ELECTRONIC RESEARCH

The Fishergate Centre, Dept CCI,
4 Fishergate, York YO1 4AB. Tel: (0904) 610722

CRL The Dream Makers

PROGRAMMERS

Over the last year the ZEN ROOM has produced some of Europe's top games, like TAU CETI DRACULA CYBORG, ACADEMY DEATH OR GLORY BALLBREAKER and THE ROCKY HORROR SHOW. Now Britains most innovative software development team are looking for experienced freelance programmers to join them. If you have just written a game or are about to and would like the financial and programming back-up the ZEN ROOM can offer contact Michael Hodges on 01-985 2391 or write to the ZEN ROOM, Unit 7D, Kings Yard, Carpenters Road, London E15

THE ZEN ROOM

A DIVISION OF CRL GROUP PLC

CRL The Dream Makers

---

commodore

FROM £425! AMIGA

Amiga A500 with 512K RAM, 880K 3.5" disk, mouse, software	£425
Amiga A500 TV As above, plus A521 TV/composite modulator	£445
Amiga A500M with A1081 high-res colour monitor	£675
Amiga B2000 with 1MB RAM, 880K 3.5" disk, mouse, software	£999
Amiga B2000M As above, plus A1081 hi-res colour monitor	£1245
Amiga B2000 XTM As above, plus PC XT bridge board & floppy	£1745

Add £50 for A1084 in place of A1081. Prices include 15% VAT, a FREE copy of DeLuxe Paint, FREE delivery to your door, one year warranty. Overnight delivery £12 On-site maintenance option available.

PERIPHERALS AMIGA

A521 TV/composite modulator	£25	A2088 PC-XT bridge board with 5.25" internal disk drive	£499
512K plug-in RAM/clock (A500)	£99	A2286 PC-AT bridge board with 5.25" internal disk drive	£699
A1081 high-res colour monitor	£275	A2092PC 20MB internal hard disk with MS DOS controller	£525
A1084 high-res colour monitor	£325	A2092A 20MB internal hard disk with Amiga DOS controller	£625
A1010 3.5" external disk drive	£185	A2094A 40MB Amiga Dos hard disk	Call
Cumana 3.5" external disk drive	£129	Supra hard disks 20MB - 250MB	Call
NEC internal drive (2000 only)	£129	Citizen 120D 120 cps, F/T, NLQ	£185
A2010 internal drive (2000 only)	£175	Star LC10 120 cps, F/T, NLQ	£225
Genlock B2000 video controller	£225	Precision printer 480 cps, NLQ	£399
A2052 2MB internal RAM card	£375	Canon PJ1080A colour, 80 dpi	£499
		Xerox 4020 colour, 240 dpi	£1125
		HP LaserJet laser, 300 dpi	£1995

CREATIVITY AMIGA

De Luxe Paint II (PAL)		£59.95
DigiPaint 4096 colours		39.95
De Luxe Music (PAL)		59.95
Page Setter		94.95
City Desk		89.95
Animator Apprentice		179.95
ProWrite	Wordprocessing fully integrated with graphics	89.95
VizaWrite Desktop	High performance desktop publishing wordprocessor	79.95
Word Perfect	Amiga version of the No.1 best selling wordprocessor	199.95
The Works	Analyze + Organize + Scribble, integrated desktop	139.95
Publisher Plus	Enhanced version of the original desktop publisher	99.95
Flow	The Idea Processor from New Horizons Software	69.95
PixMate	Professional image enhancement straight from NASA!	44.95
Prism Plus	4096 HAM colour paint pack 1024 x 1024 (needs 1MB)	54.95
Calligrapher	Professional font editor, fonts up to 160 x 256 pixels	74.95
De Luxe Video II	Create all types of video presentations with ease	59.95
Aegis VideoScape	Full 3D animations in all resolutions with overscan	124.95
Pro-Video CGI	Professional video titler with fonts, extra fonts available	159.95
Aegis Animator	Full storyboarding package, includes Aegis Images	94.95
TV Show	PAL image presentation in IFF or HAM with overscan	89.95
DigiPic	Fast frame-grabber, 32 colours or grey scale	299.95
Art of Chess	The best Amiga chess yet, packed with features	24.95

PRODUCTIVITY AMIGA

SAM Basic		£89.95
A/C Basic		154.95
A/C Fortran		229.95
Lattice C 4.0		144.95
Lattice C Professional		299.95
MCC Pascal		69.95
64 Emulator	Use your C64 programs and files! Includes cable	69.95
SuperBase Personal	Relational database power, without programming!	79.95
SuperBase Professional	With Forms Editor and DML program language	194.95
Acquisition (V1.3)	Relational database with programming language	224.95
Maxiplan 500	Ultimate Amiga spreadsheet, + text/graphics/speech	89.95
Maxiplan Plus	As Maxiplan 500 above, plus powerful Macro language	129.95
VIP Professional	1-2-3 compatible spreadsheet + database & graphs	99.95
Logistix	2048 x 1024 spreadsheet, database, graphs & calendar	99.95
Businessware Pack 1	Invoicing, Sales Ledger, Stock Control, by Panmead	159.95
Businessware Pack 2	General Ledger, Purchase Ledger, by Panmead	159.95
Intro Cad	Entry level CAD package, printer or plotter output	54.95
Aegis Draw Plus	Comprehensive CAD with multiple layers & windows	124.95
X-Cad	Professional CAD system (needs 2MB)	424.95
MCC Assembler	Professional development system with linker & libraries	59.95

128

SuperBase 128	£29.95	Commodore 128D	£39!
SuperBase 64 & Plus/4	24.95	Commodore 128	199
SuperBase: The Book	11.95	NEW 1581 disk drive 3.5"	199
SuperBase Starter 64	14.95	Commodore 1571 disk drive	199
SuperScript 128	29.95	Commodore 1541C disk drive	169
SuperScript 64	24.95	NEW Commodore PC-III	Call
PetSpeed	Oxford Systems' best selling Basic compiler (state 64/128)	VizaWrite 128 Classic	59.95
Oxford Pascal	Complete J & W Pascal, with extensions (state 64/128)	VizaWrite 64 (disk)	39.95
Oxford Pascal 64 (tape)	As above, for C64 tape users	VizaWrite 64 (cartridge)	49.95
Cobol	Complete COBOL package from Abacus (state 64/128)	VizaStar 128	79.95
Super C	Complete C language to K & R standard (state 64/128)	VizaStar 64 XL8	59.95
Hack Pack	All-in-one programmer's Toolkit/Ram-disk (state 64/128)	VizaStar 64 XL4	49.95
Oxford Basic 64	All-in-one Basic compiler, Toolkit, compressor		
1750 Expansion RAM	512K Expansion RAM cartridge for the C128		
RamDos 128	Lightning-fast RAM-disk for 512K expansion RAM		
1764 Expansion RAM	256K Expansion RAM cartridge for the C64		
Anatomy of the 128	The 500-page insider's guide to the 128		

SuperBase 128	£29.95	Commodore 128D	£39!
SuperBase 64 & Plus/4	24.95	Commodore 128	199
SuperBase: The Book	11.95	NEW 1581 disk drive 3.5"	199
SuperBase Starter 64	14.95	Commodore 1571 disk drive	199
SuperScript 128	29.95	Commodore 1541C disk drive	169
SuperScript 64	24.95	NEW Commodore PC-III	Call
PetSpeed	Oxford Systems' best selling Basic compiler (state 64/128)	VizaWrite 128 Classic	59.95
Oxford Pascal	Complete J & W Pascal, with extensions (state 64/128)	VizaWrite 64 (disk)	39.95
Oxford Pascal 64 (tape)	As above, for C64 tape users	VizaWrite 64 (cartridge)	49.95
Cobol	Complete COBOL package from Abacus (state 64/128)	VizaStar 128	79.95
Super C	Complete C language to K & R standard (state 64/128)	VizaStar 64 XL8	59.95
Hack Pack	All-in-one programmer's Toolkit/Ram-disk (state 64/128)	VizaStar 64 XL4	49.95
Oxford Basic 64	All-in-one Basic compiler, Toolkit, compressor		
1750 Expansion RAM	512K Expansion RAM cartridge for the C128		
RamDos 128	Lightning-fast RAM-disk for 512K expansion RAM		
1764 Expansion RAM	256K Expansion RAM cartridge for the C64		
Anatomy of the 128	The 500-page insider's guide to the 128		

IF YOU WANT IT TOMORROW... CALL US TODAY! ON 0483 - 504125

Prices are POST FREE & include VAT. Order by phone with your credit card, or send cheque/PO or your credit card number. Official orders welcome. We despatch same day by FIRST CLASS post. Please allow 5 days for delivery of hardware orders. Prices quoted are subject to availability. Ref. A56

VISA

Calco Software

LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

STAR COMPETITION NO. 2

SUNSTAR

A C16 COMP! WOW!

Now all you C16 and Plus/4 people out there, wake up! Stop weeping into your tea! Someone — in this case, the kind and gentle Jack the Ripper of the software industry Mr Clement ("I'm a Sunstar") Chambers, el Supremo of CRL — wants to do you the ultimate favour. With his ghoulish sense of humour — CRL didn't publish Frankenstein *and* Dracula for nothing, you know — CRL's thoughtful boss is offering a prize of just what every C16 owner has always wanted — a 64!.

Yes, that's the first prize for CRL's great Sunstar competition. They have given it to celebrate getting a Mega rating for the C16 Sunstar in this issue. The C16 Sunstar, we hear, was programmed by some really bright C16 experts in . . . well, you'll never guess, so we'll tell you . . . Poland! (Eat your heart out Mirrorsoft!). Probably the Poles think that the C16 is the top home computer — and please no jokes about Poles being up them . . .

Sunstar may turn out to be the last great C16 game. So, if you want to grab a quick 64 answer the easy, easy questions. First correct solution out of the Comp Sack, drawn by the lovely but tough Tessa, will get the 64. Next 25 will get copies of the CRL's Mega C16 baby — Sunstar.

1. Name 3 other CRL games
2. Who is Michael Hodges and what is his nickname? (Examine this CCI!)
3. How many planets are there in the Solar system?
4. What kind of a star is the sun?
5. How many miles (give or take a few) is CCI Towers from the sun?

Answers on a postcard please by May 15th to CRL's Sunstar Comp, c/o CCI, 40 Bowling Green Lane, London EC1R 0NE.

REVIEW

GAUNTLET II

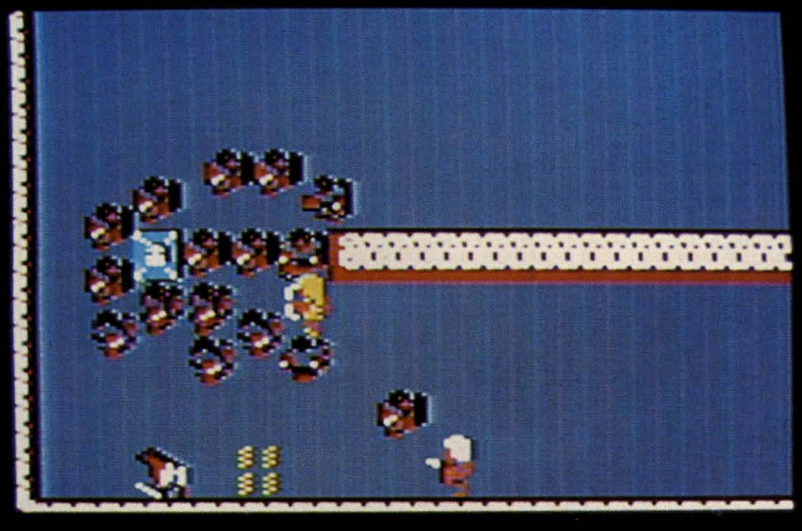
US Gold

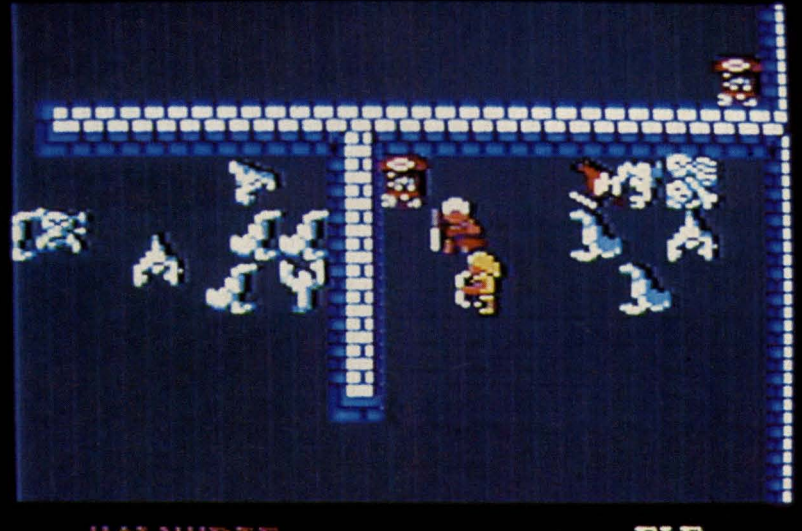
The original Gauntlet was one of the biggest selling games ever, but it is unlikely that US Gold will repeat that tremendous success with the sequel. It was probably the two player element of the original that made it so outstandingly popular. But the 64 version was spoilt by "international" bugs. With Gauntlet II, the game has been altered slightly, debugged (almost), and re-hyped, but to what effect?

Each of the two players can now choose (understandably) character and colour. The characters can be the same as long as their colours are different. Entering the first dungeon, the first difference you'll notice is the redesigned player sprites. These were the worst parts of the original in my view, and are much more respectable now.

The object is, as before, to find the exit from the current level to access the next. Lurking in the mazes are a number of villains that chase the players in massive crowds, taking turns to bite and hit you. Ghosts, grunts, lobbers, sorcerers and death are all here, with the additions of super sorcerers, acid puddles, and "it" and "that" monsters are somewhat different.

When a player touches "it", all the monsters turn their attention to that player, leaving the other free to roam in safety. If the first player then touches the second, the roles are reversed. The "that" monster will take away a potion, special power, or 100 health points from the player it touches. Other minor differences include force fields and moving walls. The changes are all minor, and not all, in our view, are for the better. In this version, the sprites and scrolling appear less smooth than the last. This is because of the more delicate





control in the sequel. In GI, you move a single block at a time. GII lets you make tiny, presumably single pixel moves.I have to say I prefer the speed and smoothness of the original.

It would be generous to describe the sound effects as mediocre. One thing that disappointed me about Gauntlet I was the lack of a tiled floor, which I hoped the sequel would, but again I was disappointed. Sprite-wise, it fails to impress, as half of the baddies are nearly impossible to make out.

Gauntlet II is by no means bad but it does seem strange that there are not more differences from the first version. However for gauntlet fans if the Deeper Dungeons add-on wasn't enough, or if you never bought Gauntlet, at all then this classic game will certainly be one you will want to try out.

B.V.

Graphics: 58%
Sound: 41%
Playability: 68%
Overall: 60%

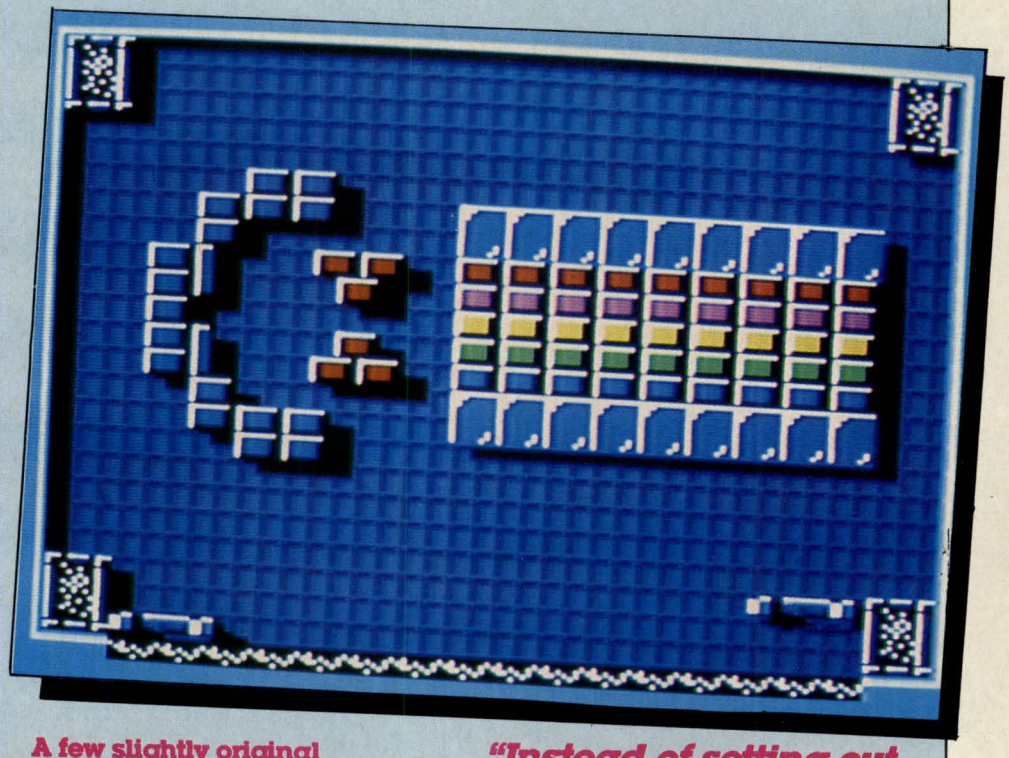
REVIEW

C64

IFFY

TRAZ

Cascade



Why do they do it? They know it's Breakout, we know it's Breakout, and hasn't everyone got one of these games by now anyway? If there is anyone who hasn't, do they really want one? Cascade seem to think so, and have released Traz which they claim to be the world's first breakout construction kit. Correct me if I'm wrong, but I seem to remember A.S.L's Impact having a construction set, which isn't on the 64 yet, but is still in the same world.

So, why should you choose Traz over any other such game? For one thing, apart from being a straight bounce 'em up, it has that construction set. It has obviously been designed to make it easy for anyone to doodle a pattern of bricks on the screen, and has succeeded. When compared to the design sections of Sensible Soft's Shoot 'em up Construction Kit, it is more clumsy and less helpful. A few pull-down menus would simplify it, but designing the screen is no real problem.

"As in most games, the two player mode is more fun than solo."

The second point in its favour is the simultaneous two player option. This should be played as a team, because one of the five lives are lost when either player lets the ball slip through. It can also be played competitively, as each player has an independant score. As in most games, the two player mode is more fun than solo.

A few slightly original elements have been included, such as the refractors that swerve the ball, and horizontal or vertical moving bats.

Traz plays more like Gremlin's Krakout and Elite's Batty than Arkanoid, from which it gets most of its ideas. This may be due to the lack of paddle or mouse control. It also looks as if it has a similar graphic style to these two. The screens are colourful, and the sprites are the usual abstract faces, blobs and the like that frequently pop up in Arkanoid clones.

If this were the only game of its kind, it would be a winner, because as far as the programming goes, it's very good.

The music on the title screen can get annoying very quickly with its oh so jolly tune, but the sound effects are a lot better.

However, Arkanoid is still the best of its kind as far as I'm concerned. So now hear this Cascade and all other "guilty" parties, we've already got

"Instead of setting out to clone a game, which is bound to reduce the number of people willing to buy the game, why not start with a bit a thought and game design."

Breakout, Krakout, Bashout, Batty, Demolition, Impact, Through The Wall and a host of five year old type-ins all offering the same thing. I'm sorry, but it is certainly about time software houses sat up and listened. Instead of setting out to clone a game, which is bound to reduce the nuumber of people willing to buy the game, why not start with a bit of thought and game design? You'll find a far bigger market if you do.

T.H.

Price: £9.95 (cass)
£14.95 (disk)

Graphics: 76%
Sound: 73%
Playability: 40%
Overall: 48%
Rating: IFFY

MEGAREVIEW

C64

CRISP

FIREFLY

Ocean

One of the most promising development companies that has appeared recently must be Special FX, run by ex-Ocean director Paul Finnegan and with the team responsible for Hysteria. As well as 8-bit games, SFX are also writing for 16-bit computers, starting with a great looking game entitled Vertigo.

Firefly is their latest offering for 64 owners. Those evil aliens are once again threatening mankind, and it's up to you to stop them. Your only hope is to destroy the grid that gives them their power. That's the scenario out of the way, now on to the game.

The ultimate object of the game is to get from one side of the grid to a lever on the other. Forty zones make up the grid. Some of these are blocked by planets, and others give the opportunity for a gamble. Attempting to take over one of these could give you the zone for nothing, or might jumble the whole grid and put you back at the start. The majority of zones are inhabited by the enemy, and make up the bulk of the game.

Unsurprisingly, you take control of the Firefly, zapping your way around the scrolling mazes. Each of these zones contain four energy points. These are the source of the swarms of aliens constantly attacking your ship. They're also the source of energy units. Collecting four of these gives you a chance of destroying that point. A thumbs up and thumbs down flash one after the other. Press the button on the thumbs up and you've destroyed the point. The first one is easy, the last is 99% luck.

Some points are inaccessible without using the teleports. Teleporting calls for some more well timed button presses. Bodge this and your shields are depleated, sometimes fatally. The main part of the game is fairly simple, negotiating the maze and shooting aliens, but due to the sub-plot of crossing the grid, and mastering teleports and energy points, you get the feeling that there's some purpose to it all.

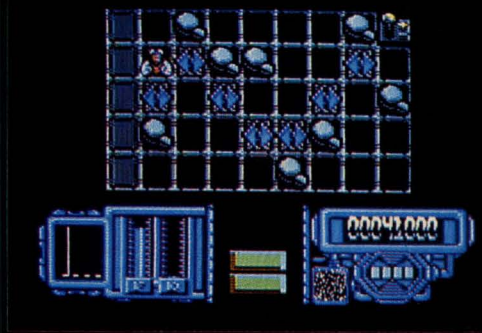
The zones differ graphically and in their layout, but the backgrounds are all a little dull. The Firefly sprite is neat and well animated, but again, the rest of the sprites lack some bright colours and punchy design. One great touch is the way your bullets return and circle your ship in different patterns. Firefly has similarities to Denton Design's excellent Mutants, in its sub-plots and main game, and though surely influenced by it, intentionally or not, has an impact of its own.

SFX done a really terrific job with the sound. The effects are a welcome change from the usual shoot/explode sounds, and the music, although similar to Hysteria, is highly enjoyable for short periods.

I enjoyed Firefly, very much indeed.

No-one will find it easy to finish, and maybe the sheer effort will make it a shade repetitive in the long run. Overall, however, its highly professional look and feel are enough for it to be well worthy of a mega rating. Firefly isn't the first game the special FX team have produced but it is a tremendous debut under their own label. High recommended.

T.H.



Graphics: 78%
Sound: 85%
Playability: 77%
Overall: 79%
Rating: MEGA
Price: £8.95 (cass)
£12.95 (disk)

SEGA

THE ULTIMATE HOME VIDEO ARCADE MACHINE

This is SEGA – the powerful new video games system designed specially for the home and the whole family. It's compact and easy to assemble, and the high technology gives you sharp video images, vibrant colour and realistic sound!

LOOK HOW MUCH SEGA GIVES YOU

With Sega, you get a complete, ready-to-use system. All you need is a TV! The package includes games console (to run a card or cartridge), a FREE copy of the hit arcade game "Hang On", 2 control pads, a TV aerial fixture to let you watch TV even when the console's still connected as well as a fitted 3-pin plug and a special mystery game built-in and ready for you to find!

GAMES! GAMES! GAMES!

Sports action, exciting thrillers and great arcade hits - there's a feast of fun covering 256k cards! And Sega has 1 megabyte and huge 2 megabyte cartridges to take the 40 new titles coming your way later this year including smash hits Out Run, Space Harrier and many more.

SEGA GIVES YOU ALL THIS FOR JUST £99.95!

COMING SOON!

LIGHT PHASER

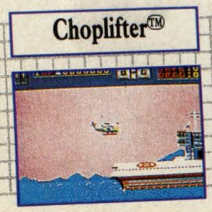
Take aim and fire at your targets with ease – and stunning realism!

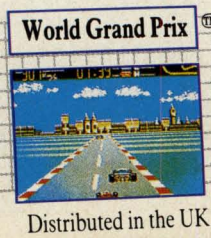
3-D VISOR GLASSES

Get more out of your game – More force, more action and more amazing 3-D realism!

SEGA

The Ultimate Games Machine For Your Home


Choplifter™


World Grand Prix™

Super Tennis™

Space Harrier™

F16 Falcon™

Out Run™

Distributed in the UK by Mastertronic Ltd, 8–10 Paul Street, London EC2A 4JH. Tel: 01-377 6880

Adventure

ANDY MOSS CCI'S RESIDENT ADVENTURER CHRONICLES ANOTHER COLUMN FROM THE HERO'S TAVERN...

COMMENT

Welcome my friends to another month's worth of Adventure. Thank you for all your letters, especially Marc Gibson who wrote in from New Zealand and Chris Haughton who runs the Mansfield Adventure Club down under in Australia. First off, I would like to devote this month's Comment to the furore over CRL's JACK THE RIPPER. There has been a lot of debate in the computer press about whether CRL is morally correct in publishing a game based on a real life murderer and further more, are they just cashing in on the hype that the 18 certificate generated? The Industry's trade paper CTW even went so far as to ask CRL if they had a game based on the Kings Cross disaster in the planning! In the wake of all this paranoia, I would like to offer some calming advice. The subject of Jack the Ripper has fascinated me for years; not from a ghoulish point of view but from a sleuthing angle. Unsolved crimes will ever be popular subjects for conjecture because there is always someone who knows or has unearthed evidence pointing to a suspect. For me, it was the basis for a complete project in my college days and I spent months sifting through known evidence, newspapers of the day, walking the actual murder sites in Whitechapel and even visiting Scotland Yard. I read countless books on the Ripper crimes and eventually regarded myself as something of an expert on the subject. Yes, I discovered a hot suspect, and yes to this day I believe I know who Jack the Ripper really was, but in truth the events of those six weeks in 1888 are well and truly written into folk history. There have been over ten movies telling the story, and later this year Michael Caine is starring in a TV dramatised documentary about the "definitive solution" to the Jack the Ripper mystery. What then can be so wrong in a publishing house producing an adventure which puts forward another possible solution to the Ripper? To describe the actual wounds the unfortunate victims received is necessary in the context of the story in order to qualify why the name "Ripper!" applies and why his crimes caused such panic back in those days. CRL are not turning Jack into a celebrity nor are they demeaning his poor victims, they are merely turning a possible solution into detective entertainment. The manner of the game is serious, not in the slightest way humourous and portrays the atmosphere of the time very well indeed. I applaud the release of this adventure and suggest that those journalists who have taken such a dislike to the Jack The Ripper turn their attentions to something far more uglier like Domark's NOT A PENNY MORE. As for the real Jack the Ripper, I believe him to be a man called Montague Druitt, a failed barrister turned school teacher from Blackheath. Time will prove me right.

ADVENTURE NEWS

Infocom branch into comic strip graphics.

Imagine a comic book coming to life on your computer screen with bold animated illustrations. Imagine being pulled into the action with sounds and exciting cinematic effects like zooms, pans and dissolves or being able to follow richly detailed storylines from the different viewpoints of several characters. INFOCOMICS is the result, and it is a partnership between the Infocom we know and love so well, and Tom Snyder Productions who specia graphics and sound techniques.

Infocomics are a series of interlwining storylines which although structurally complex are remarkably easy to understand. You may choose to branch to another character wherever two paths intersect. Different paths reveal different thoughts, flashbacks, or dreams. The pages turn automatically, and by pressing the space bar viewers can fast forward, stop or rewind. The initial three releases are entitled LANE MASTADON VS THE BLUBBERMEN, GAMMA FORCE IN PIT OF A THOUSAND SCREAMS and ZORKQUEST: ASSAULT ON EGRETH CASTLE.

Adventure

CONTINUED...

Comics in America are enjoying a renaissance at the moment, and it will be interesting to see whether this new idea takes off over here. Watch this space.

Incentive release the Dark Side
Following their success with Driller, Incentive have announced a follow up called The Dark Side which will again feature Freescape solid 3D graphics.

Corporate moves from Activision
Coming this month is a new strategy game from Activision called The Corporation which is set in the year 3026AD. it sets you as a Commander of a deep space mining team which has to collect large amounts of the Precious Minorthan Crystal. A rival corporation is also doing just that so competition is fierce and time is short....

Bards Tale on Cassette
Electronic Arts has announced that Bards Tale is now available on a multi load cassette. I have not seen the product in this form yet so no comment except to say that as a game it is well worth the inconvenience. Also Bards II is now available. This was reviewed back in October last year and is something like 50% larger in code size and every bit as good as the Predecessor.

Smart Egg are ready with Federation
10,000 points are on offer in this text/graphics game from Smart Egg through CRL. The plot is all about an alien scientist who after designing the pride ship of the Federation decides to hijack it and fly it to an outpost of the evil empire and sell the secret of its engines. You play the part of a member of the elite Federation Secret Service out to stop him. Graphics in every location and an atmospheric narrative are promised. I very much liked their last offering Rigel's Revenge through Mastertronic so look forward to seeing a copy of Federation as soon as possible.

Lords of Midnight spoof from CRL
Lords of Midnight is a crazy three part text adventure loosely based on Mike Singleton's framed Lords of Midnight. You play the part of Ludo son of Ludwig. Your mission is to find and destroy the Ice Crown before the evil Gloompork has the chance to use it against you. £8.95.

Rack It signs Gargoyle
Hewson's Rack It label has snapped up Gargoyle's back catalogue which includes TIR NA NOG and Heavy On The Magick. These classic graphic adventures will all be available for £2.99

Mircoprose/Origin plan 2 more role players
TIMES OF LORE and 2400 AD are two new space age role playing games scheduled for an April release from Microprose written by Origin. News is sketchy at the moment but I have it on good authority that they will be state-of-the-art both in game play and graphics and should appeal to all Ultima fans.

MAILBAG

Dear Andy,
I an having terrible problems with The Pawn. How do I get past the Snow Beast which guards the Ice tower? Also on Tracer Sanction I can hardly get anywhere. Please help me, as I shall be waiting with several time bombs strapped to my body which will be detonated if you do not publish an answer.
Marc Gibson New Zealand

Wait Marc, don't do it!!! Help is at hand. Your Snow beast is really a poor wretch who has been put there by the Wizard. Snowmen do not like anything warm so try using the three colours to warm him up. The Tracer Sanction was a great adventure from Interplay. Before you can fly off to the first planet, you need to talk to the man at reception who will give you 1000 sols which you use to buy a chart and fill up wth fuel. The Wing is not an easy man to catch but he will leave clues around the Galaxy. There, I have saved another fellow human from a potential "situation".

Hello Andy,
Thanks for your help with Ultima IV, I am writing 'cos I need your help yet again! Could you please tell me how I get from level 3 to 4 of the castle in Bards Tale. Also I would like to know how I can get to see the keeper of the magic pool in Phantasie 1 (I keep getting washed back by a large wave). When can we see a review of Ultima V?
John the Brit W. Germany

Believe it or not John you have reached parts of Phantasie and Bards that I have not had time to get to yet, is there anyone who can help? On the Ultima V front though I can tell you that the whole game was finished but the boys at Origin decided that they could enhance it still a lot more both in game play and graphics so they took it away and are still playing with it. It looks like coming out in April. It will however contain 4 DISKS!! and retail at a slightly higher price of £24.95. Yours truly will of course have a copy before anybody else.

WHILST WE ARE ON THE SUBJECT OF BARDS TALE....

Dear Andy,
I have been playing Bards Tale for almost half a year, but for the last four months I am stuck. I cannot get into Mangar's tower, I have the Onyx key but it still will not let me in.
J Svensson Sweden

Well Svensson, the same applies to you as the last reader, I am sure that we have many readers who can help so if any solutions come in I will print them in a later edition.

Dear Andy,
Please can you recommend any other fab adventures like Gnome Ranger (Ingrid is my

girlfriend) and is Star Trek coming out on 64?
Paul Ashby Manchester

With all these letters from overseas its quite refreshing to get one from Manchester. If you enjoyed Gnome, Paul, I suggest you get either Planetfall or Stationfall by Infocom as there is a cute little robot called Floyd whom you get very attached to. Gnome II is coming out next year. And no, I am afraid there is not going to be a 64 Star Trek.

Dear Andy,
I represent the Mansfield Adventure Club and we need your help with a couple of adventures. We thought you looked the most likely to know as you seem very knowledgeable about these matters. In The Institute, how do you get the toolbox from the dark hut? In the Mask of the Sun how do you get past the snake in the temple. Thanks for any help you can give.
Chris Haughton, Victoria Australia

G'day Chris and congratulations on the Bicentennial. Flattery as anybody knows will get you everywhere with me and so I will endeavour to answer your pleas. In Mark of the Sun, you will find that repeatedly shooting the snake will cause its demise, and as far as The Institute is concerned I have never heard of it! Perhaps you mean the Institute in Lurking Horror.

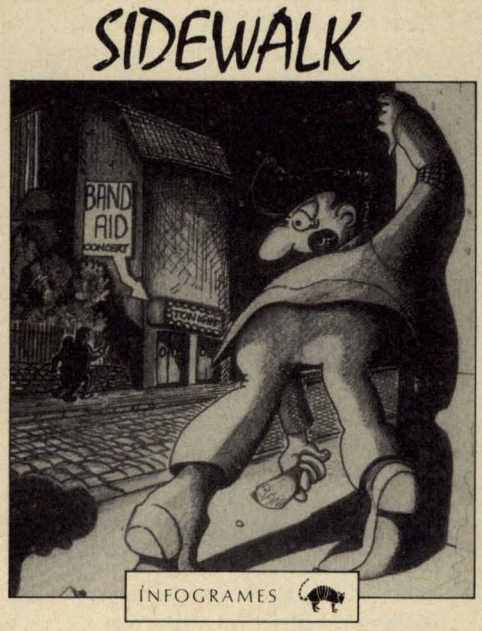
Dear Andy,
First can I say how much I enjoy your CCI Adventure column, most interesting and informative. Can you help me? I am stuck in The Tracer Sanction. I have been to Earth but cannot do anything with the vulture. The Condor keeps telling me to get something in the dark alley and use it with my torch and lighter but I can't find the lighter! Help Please!!

What's this, two letters on Tracer Sanction in one month? It is popular for an adventure nearly four years old! As I had lost my notes Chris, you made me play it all over again but I think I have found your problem. The dark alley is on Jubilex and going south from there puts you into a junkyard where you will find a stick. Also south from the alley will get you to an old hut where a solar battery will be found.
See where those items take you.

AS THERE WAS QUITE A FULL MAILBAG THIS MONTH, I HAVE HAD TO HOLD OVER SOME LETTERS UNTIL NEXT ISSUE, FEAR NOT THOUGH THEY WILL ALL BE ANSWERED.

ADVENTURE REVIEWS

SIDEWALK
INFOGRAMES £8.95
After my last review for Infogrames about Passengers On The Wind II David Crosweller range me up to complain that he can take criticism like any other bloke, but "just SIX LINES!!!!" about the game he felt was unjust and did not properly convey the spirit of the game. In answer to you, Daivd, in the review I stated that the original release did not set me alight and that this time around nothing has changed. I felt I was doing Infogrames justice by NOT going into great detail about how awful I felt the game to be. With Sidewalk we have a different Kettle of Fish, or should I say Onions. It is a graphic adventure that is all French in some quite lovely charactures of cartoon graphics. The story revolves around a lost motorbike and the Band Aid concert, and your efforts in retrieving the bits of your bike and get you and your girlfriend to the concert in time. Highly original and very amusing I would welcome Sidewalk as an entertaining addition to your software collection.
PERSONAL RATING.....7



JACK THE RIPPER
CRL £8.95
We have already discussed the various points of view regarding this release and I think I have put forward a reasonable case for wanting it to be looked at as entertainment rather than bad taste. So let us just concentrate on what all the fuss is about and whether or not it is worth buying. The adventure starts in the fog shrouded streets of old Whitechapel back in 1988 and puts you firmly in the guise of an innocent person unfortunately mistaken for old Jack. This happens during the opening phase when after being gently guided towards the right path, you stumble across the body of Mary Nichols who has only recently fallen foul of you know who. Examining her you find a couple of pieces of paper and a bloody knife. Running then from the scene you bump into a local bobbie who has a good look at you before summoning his colleagues. All this leads you to waking up in the morning in your room fully dressed and holding the said knife. The first

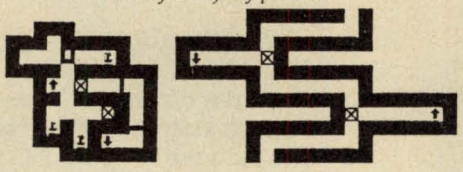
Adventure

The Way of the Avatar

A Guide to Ultima IV

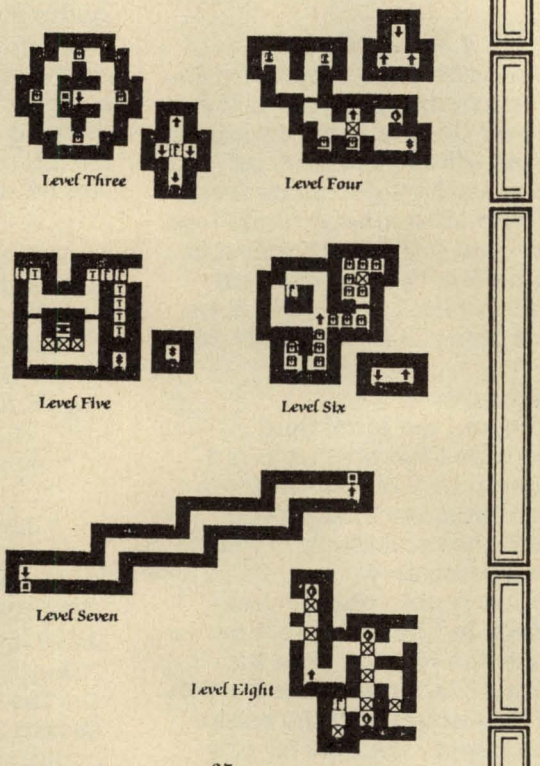
Despise:

Deep within the crags of the mountain range known as the Serpent's Spine lies the dungeon Despise. A seemingly featureless series of dank caverns, Despise houses a variety of fierce creatures that have strewn the bones of many an explorer throughout the underground. Thou must find the room of serpents in order to gain entrance to the Altar Room containing the yellow stone on the 5th Level. Care is of the utmost necessity on this level as there are many perilous traps scattered about. The bravest explorers can gain access to the Altar Room of Love if they persevere.



Level One Level Two

26



Level Three Level Four

Level Five Level Six

Level Seven

Level Eight

27

puzzle is how to get out of your house without getting nabbed by the police who by now are staking out your property. Just a small clue here, closely examine the knife's handle and put whatever you find into the ink bottle, and then put that into the Pillow somehow. When you manage to escape you need to keep your wits about you to avoid the police who are constantly on alert. The St Brides team of ladies have written this adventure as a possible solution to the mystery of the identity of Jack and whilst the theory of Masonic rituals is not a new one, the angle of more than one Jack is. The aim of the game is to prove your innocence and trap the guilty men. The atmosphere is wonderful, and written in a style not unlike Rod Pike's Dracula or Fra kenstein. The ladies have certainly dreamt up some interesting puzzles, and as their first serious adventure have commendably come up with a winner. There is a bug I spotted in that the dolls on the mantlepiece could not be examined but after reporting this to CRL was told that it is being put right.

PERSONAL RATING.....8

GOING UNDERGROUND
DAVID PICKING GAC

Yet another in my Do it Yourself competition. This one from David Picking in Upminster is a space story that begins aboard your stricken craft which has crash landed on the Planet Deadworld. This planet, apart from containing a mine that houses the very crystal you need for the engine power also means a few choice goodies for you to sell on the open market. The opening Phase requires you to explore the ship to get the necessary equipment for staying alive in an oxygen free atmosphere, and then it is down the mine for a spot of digging and messing about. Written on the GAC about which David modestly claims in his letter to being "a true authority", there are a fair amount of descriptive passages, and some nice testy puzzles to go with some of the more obvious ones. In fact, David thinks of this as an introductory level game something that Stuart Swinscow was after. Well, Stuart, if you want to see a copy of Underground write to me and I will forward David's address as he does not want his address published due to a "shortage of funds for extra disks/tapes etc". Well done, David, for a splendid adventure that just falls short of the magic 9 marks due to the rather lateral Path through it.

PERSONAL RATING.....8 AND A WORD TO INCENTIVE.

THATS IT FOR THIS MONTH DUE TO LACK OF MORE SPACE (MUST SEE THE EDITOR ABOUT THIS). NEXT ISSUE ANOTHE SPECIAL BUMPER HINT SECTION AND SOME MORE CHOICE REVIEWS, SEE YOU THEN.

Adventure!

THE MPS803
PRINTKIT IV

AT LAST
top quality performance
from your MPS803 printer. Simply fit PRINTKIT IV for:

- TRUE DESCENDERS on your original character set
- *an attractive alternative ITALIC character set*
- **an emphasised BOLD option**
- single pass UNDERLINING

BEST OF ALL, unlike software methods, PRINTKIT IV will actually *speed your printer up!* At just £30 (all inclusive)* PRINTKIT IV adds a whole new dimension to your Word Processing and Listing.

Orders by cheque or P.O. please to AVON PRINTER TECHNOLOGY at the address below.

AVON PRINTER TECHNOLOGY

SWINDON HOUSE; 4, HOWARD ROAD; SOUTHVILLE;
BRISTOL BS3 1QH Telephone BRISTOL (0272) 667167
(enquiries from non-UK Distributors welcome) *add £2.00 P&P for overseas orders

I·C·P·U·G

the Independent Commodore Products Users Group is the largest and most friendly computer club in the country

- Many local groups with regular meetings
- Superb FREE Newsletter — 80 plus pages of reviews, news & information every two months
- Back issues 1987 available to non-members. £1.50 each inc p&p.
- We support all Commodore Machines old and new: PET, VIC20, 64, 16, +4, PC, 128 & AMIGA
- FREE Software Library of public domain programs for all machines. Full details of how to obtain free software will be snt after you have joined
- Over 150 disks of Amiga public domain software available free to members
- Help and Advice
- Discount scheme
- Subscription only £10 per year (UK) plus £1 joining fee

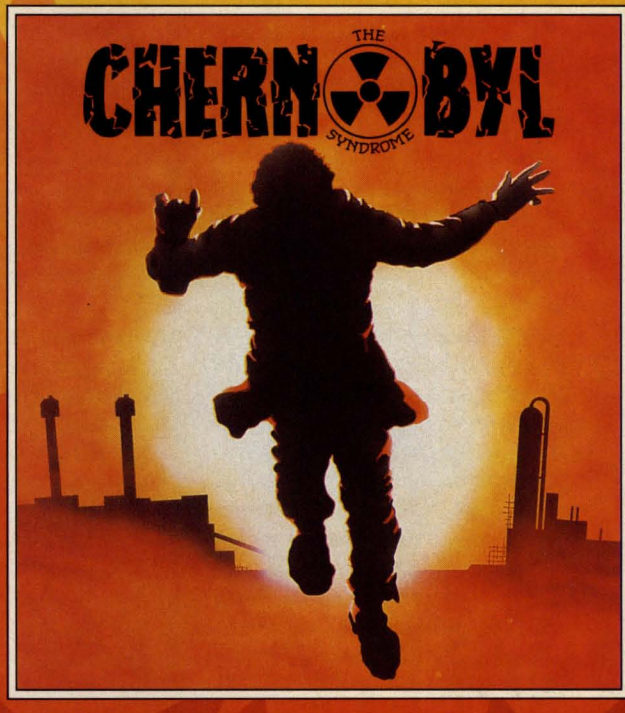
If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must!

For full details, send a stamped, addressed envelope to:

ICPUG Membership Secretary, Jack B. Cohen,
30, Brancaster Road, Newbury Park,
Ilford, Essex, IG2 7EP
01-590 8849 Day 01-346 0050 Ev. & W'ends

EXPLOSIVE ACTION

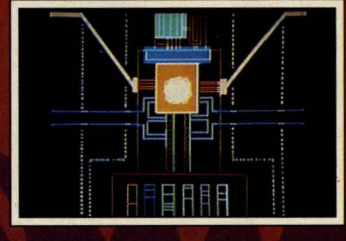
The reactor wants to live, its automatic defense mechanisms may not ... only you are the difference between continuing calm or almighty destruction.



From the creator of the superb 'Super Huey Helicopter Flight Simulator' series, Paul Norman, comes another amazing challenge to your powers of reason and reactive skills.

Finding yourself within the central computer of a nuclear power plant, things suddenly start going wrong and if you fail to act quickly and take the right precautions then danger will turn to crisis and the safety of millions of people and thousands of square miles is jeopardised.

A drama and challenge of chilling realism and awesome consequences.



COSMI

CBM 64/128 £9.99 CASSETTE

U.S. GOLD

CBM 64/128 £11.99 DISK

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

DAS ZINKING FEELINK

John Ransley got just that when the torpedoes start speeding toward him in the Epyx Sub Battle Simulator.

Waiting for the 1541 to disgorge the title screen of Sub Battle Simulator into my hungry 64 gave time to reflect on the fact that not one fighting sub, ship, vehicle or plane in World War 2 could boast as much electronic sophistication as the circuit board of the micro at my fingertips. Only the groans, rumblings and squawks cascading from the drive as its read head ripped across the dick sectors — in the way it playfully does with the 1541 — reminded me that maybe the technology isn't quite perfect yet. Still, just think what Jack Hawkins or Anton Diffring could have done (because the cinema shows us that they conducted almost the whole of the second world war between them) if they had been able to flip the switch on a laser rangefinder and empty a few pods of ground-to-air missies into their adversaries.

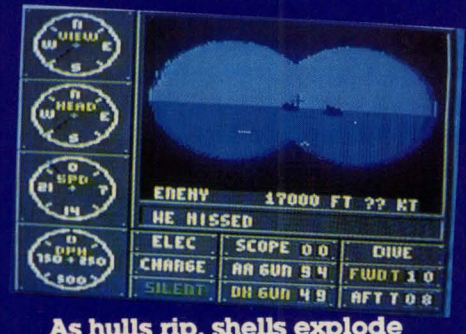
History, as writ by silver screen, would have us believe also that submariners spent most of their time shoving a tube through an apparently roofless submersible shouting "Up periscope!", their teeth clenched permanently on the stem of an unlit briar, breaking off only to swop a few homilies with brother officers over a mug of cocoa and to write a letter home in a captain's cabin that remarkably took on the dimensions of the biggest private suite on the QE2.

But as if to prove that it is possible to be both accurate and entertaining, Epyx have evidently tried very hard in this new title from their Masters Collection to offer as much to the casual player of simulations as to those dedicated to the *genre*, who probably would not mind if Sub Battle Simulator came in a plain cardboard box with photocopied instructions and a 1 in 10 chance of loading, just so long as it was faithful to the perceived actuality of a life of combat below the waves.

Certainly in Sub Battle Simulator you are spoilt for choice when it comes to the number of possible play options. Novices are given a chance to get to grips with the conventions by going first for the easiest, target practice mode, which gives access to all the main operatinal screens and a chance to familiarise oneself with at least some of the 54 commands it is possible to enter using the keyboard, supplemented by the joystick to manoeuvre and unleash a pretty heavy arsenal of torpedoes, anti-aircraft guns and mines.

A typical scenario (and there are 60 different missions from which to choose) would have you patrolling the Pacific or Atlantic sometime between 1939 and 1945, on the alert for any carrier, battleship, destroyer, tanker or other enemy vessel whose speedy despatch to the bottom of the briney will help put a new dollop of scrambled egg on your cap.

The nicely detailed head-up display, with its animated dials and constantly-refreshed navigational and other intelligence, lets you toggle between a number of information graphics; a nautical map, sonar and radar screens, detailed status readouts, and a tower, periscope and even binocular view of anything promising. You can realistically spin out the process of stalking and moving in on your pray — but simply stabbing a couple of keys effectively gives you automatic dead reckoning and time compression, so you can start accurately sending those mothers down the tubes almost as soon as you've stopped admiring the scenery. Just be ready to repeat the exercise if you've happened to despatch a steam-propelled Mk 14 torpedo, which the game's highly detailed documentation (albeit apparently printed for the Lilliputian export market) reveals had a 62% failure rate.



As hulls rip, shells explode and all hell is generally let loose, you are given a constant feedback of the state of battle courtesy of a 'crew speech display', which can guide your further commands or perhaps prompt you into taking evasive action if the encounter seems to be going the wrong way: in some missions you are likely to come under attack from enemy planes dropping depth charges and U-boats if you hang around too long congratulating yourself for decimating yet another convoy that included an aircraft carrier. You may get out of trouble with a crash dive, or you could send out an SOS and abandon ship (not recommended if you have already submerged).

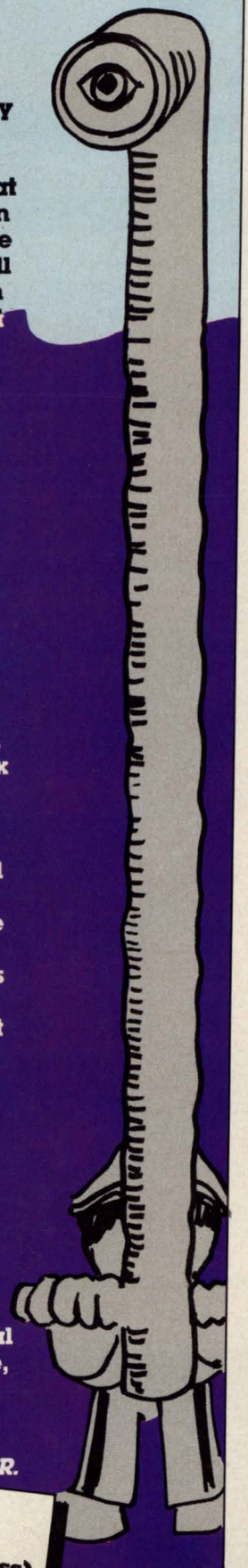
Sometimes, it's even more challenging taking the part of the bad guys — imagining yourself swopping the wardroom picture of Churchill for one of Doenitz and spikkin vid der jermin agzent. Trouble is, WW2 German sub technology was not

many moves on from the motorised coracle (though admittedly their worst torpedo failure rate was only 25%), so you will have to be even more of a cute strategist if you are to outwit the American fleet and avoid meeting Neptune in person.

The sheer number and variety of possible scenarios and engagements — 24 American, 36 German — make it likely that by the time you come near even to a higher mission success rate than Mk 2 torpedos, the war will be over. In fact, you might even have chewed off the end of that briar in the time it takes you totally to master those 54 commands and put them to work at just the right moment, though the ability to save a game at any point does give you a chance to refresh your memory and rethink your tactics. Still, with success so dependent on that aspect (though there is a battle pause option if you get flustered), a keyboard overlay would help considerably. And the lengthy instructions and annotated diagrams really *are* printed on a ridiculously small scale; Epyx have lessons to learn from Microprose, among others, on that score.

Given the highly professional and polished presentation overall, one cannot but help be a mite disappointed by the characterless, chunky graphics that the programmers have adopted to portray enemy craft in silhouette. They hardly look worth attacking and in that respect Sub Battle Simulator represents little by way of an advance on earlier Epyx simulations such as the 1985 title Destroyer. That may not worry some, but a year is an awful long time in computer graphics and maybe Epyx should make a start on giving their simulations as much visual appeal as they have play value, which would broaden still further the market for their otherwise excellent offerings.

J.R.



Graphics: 70%
Sound: 55%
Playability: 70% (cass)
85% (disk)
Overall: 80%
Price: £9.99 (cass)
£14.99 (disk)

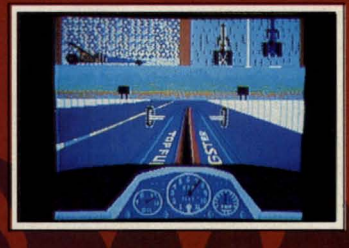
FIERY ACTION

..... from this fast moving authentic drag racing simulation.

Jump to the smell of burning rubber as you "burn-in" your tyres. Recoil from the heat of your turbos as you gun your engine. Feel the snap of the G Force as you release your clutch.

This is the world of drag racing as recreated by Shirley Muldowney, 3 times world champion in Professional Top Fuel Dragsters. Tensely wait for the Christmas tree lights, then pop your throttle and power your way down the 440 yards in head-to-head challenge with Shirley in one of her best championship races.

But be careful. Don't red light, smoke your tyres or blow your engine ... there's a long season ahead.



COSMI

CBM 64/128
£9.99
CASSETTE

U.S. GOLD

CBM 64/128
£11.99
DISK

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

TETRIS.

MIRROR Soft

A NEW WORLD FROM RUSSIA

". . . one of the all time computer classics . . . unbelievably addictive . . . it's perfectly simple and simply perfect." **94% Zzap 64**

Available on Commodore 64/128 Tape and Disk · Spectrum Tape and Disc · Amstrad CPC Tape and Disk · Amstrad PCW Tape and Disk · BBC/Electron Tape and Disc · MSX Tape · Atari ST Disk · Amiga Disk · IBM PC and Compatables.

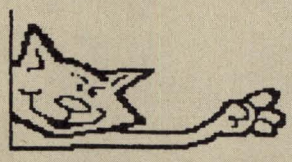
Published by **Mirrorsoft Ltd.** · Athene House · 66-73 Shoe Lane · London · EC4P 4AB

April '88

Newsroom Report

CCI 's Editor caught with trousers down !..Read on

* * * * * * * * * * * * * * *



News is just coming in to the office, here at C.C.I. Tower, that the entire staff working on your favourite magazine C.C.I. have all been neglecting a remarkable piece of desktop publishing software called NEWSROOM !

The real fact of the matter is that our editor has been so busy with other things that he missed this really good and easy to use newspaper style D.T.P. package.

It has been reported that our editor has prepared a statement for the press admitting the whole thing. " I don't know what came over me" said the 21 year old trouserless editor. Here is the whole story told by ace reporter Bob Collyer aged 18 1/4.

"It's so simple."

There was once a time when it was impossible to make your printer do anything but create simple documents. There has been a small revolution in recent years, one which brings to the home of any C64 / 128 owner the real possibility of producing a newsletter on a shoe-string budget.

When I was given NEWSROOM to review it was plain to see the versatility and potential of this program. I have presented to you this page produced using Newsroom straight off the printer. No hidden secrets!... Here is the answer to all you "budding editor's" dreams. Get used to getting in print! Become editor-in-chief for next issue.

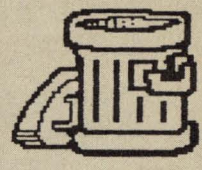
All that's needed to become one is a C64 or 128, a disk drive, a dot matrix printer / interface and an imagination that runs riot as soon as you get the feeling of power. You can design, write and illustrate a wide range of publications, including newspapers, newsletters, brochures, flyers and forms. You can spread the news about your business, school, club, team, family, or area's activities. Help promote or fund raising.

Read all about it !

Clip art images can be dropped anywhere into your text to illustrate a story, making the overall appearance of your page look professionally finished.

This page has taken me just three hours to produce from first opening the package. It will become quicker of course after a few more attempts but illustrates how anyone can get to grips straight away.

There are six parts to learn how to use Newsroom. Firstly you are given the option of producing a banner at the top of your page. A selection of clip art images can help enliven it. There are other graphic tools available to draw shapes and fill with patterns etc. A page is divided into panels depending upon which page layout is chosen. The next area is the Photo Lab, where the images are stored after retrieval from the art disk. A choice of more than 600 images can be used in the banner or anywhere in your text.



It can be said that there is a lot of trash around, but this program is not the case. As you "can" see I have illustrated the point !

The next option takes you to the Copy Desk where the creation of each text panel occurs. Here you can obtain a choice of

. . 5 different typefaces. . Old English for example.

There is sans serif small or serif small note the difference between the two. Each of these two smaller faces have large brothers to use for display headings. Once you have made up your panels then it goes to page layouts.

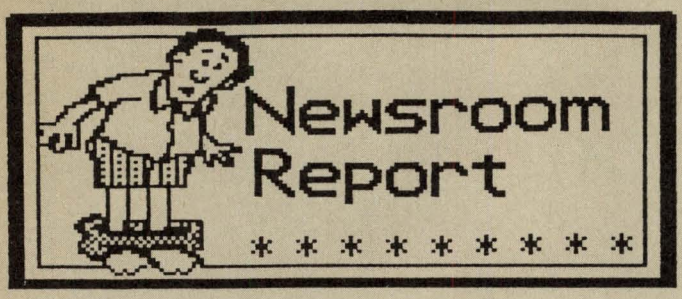
Page layouts come in different shapes and sizes all of which can be matched up to your particular requirement. As each panel is saved to disk prior to this stage it becomes easy to layout each panel of text down to create a page such as this.

Finally there is the Press Room. Here a choice of a few printer / interface combinations let you get the page printed. Modem owners also have a wire service which allows a link up to send a document between users.

I must say that it has been a pleasure to review this neat system. After all I think our editor must see the advantages of using NEWSROOM. Available from: Springboard Software Inc. Price....29.99

VISA

STOP PRESS read on..... STOP PRESS read on.....



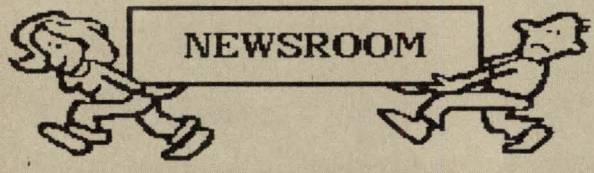
SPRINGBOARD™

SPECIAL REPORT

The Editor of CCI speaks out in defence of criticism he has had thrown his way.

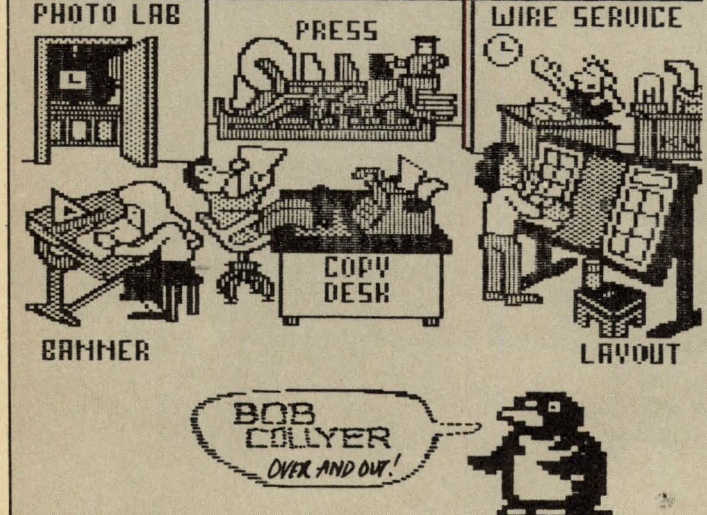
"Most people think that I can summon up 100,000 words every issue and still remain sane, but as some of you are aware, I do have my little moments!"

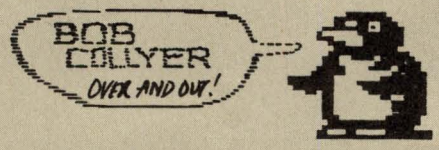
"We at CCI hold great regard for the NEWSROOM and the power it holds to enable all kinds of Commodorere owners get into PRINT."



THE NEWSROOM™

©1985 SPRINGBOARD SOFTWARE





BYTEBACK

THE AMIGA SPECIALIST

BEST PRICES *FASTEST* DELIVERY!

GAMES	ONLY		ONLY
Backlash	£16.95	Western Games	£13.95
Crazy Cars	£16.95	Indoor Sports	£16.95
Testdrive	£16.95	Mean 18 Golf	£16.95
Insanity Fight	£16.95	Grand Slam Tennis	£20.95
Qball	£13.95	Hunt for Red October	£16.95
Mission Elevator	£13.95	Fued	£6.95
Firepower	£16.95	Leviathon	£13.95
Space Ranger	£6.95	Ninja Mission	£6.95
Space Battle	£6.95	Phalanx	£6.95
Demolition	£6.95	Cruncher Factory	£6.95
Challenger	£6.95	Dr. Fruit	£6.95
Final Trip	£6.95	Vader	£6.95
Earl Weaver Baseball	£16.95	Marble Madness	£20.95
Arctic Fox	£13.95	Skyfox	£10.45
Archon I & II (2 pack)	£13.95	Chessmaster 2000	£16.95
Goldrunner	£16.95	Starglider	£16.95
Swooper	£13.95	Amiga Karate	£13.95
Barbarian	£16.95	Terrorpods	£16.95
Sky Fighter	£10.54	Super Huey	£13.95
Karate Kid II	£16.95	Hollywood Poker	£13.95
Flight Simulator 2	£34.95	Silent Service	£16.95
Basketball	£16.95	GFL Football	£16.95
Shanghai	£16.95	Winter Games	£16.95
World Games	£16.95	Leaderboard	£16.95

ADVENTURE AND STRATEGY	ONLY		ONLY
Jinxter	£16.95	Guild of Thieves	£16.95
Aegs Arazoks Tomb	£18.50	Gnome Ranger	£10.45
Bards Tale	£16.95	Faery Tale	£34.95
King of Chicago	£20.95	Sinbad	£20.95
Kings Quest III	£20.95	Seven Cities of Gold	£10.45
Defender of the Crown	£20.95	Deja Vu	£20.95
Uninivited	£20.95	Balance of Power	£20.95
SDI	£20.95	The Pawn	£16.95
Mindshadow	£16.95	Portal	£24.95
Borrowed Time	£16.95	Tass Times in Tone Town	£16.95
Hacker 2	£16.95	Hacker 2	£16.95
Enchanter	£20.95	Moonmist	£24.96
Spellbreaker	£20.95	Leather Goddesses	£20.95
Hitchhikers Guide	£20.95	Hollywood HiJinx	£20.95
Sorcerer	£20.95	Beaurocracy	£20.95
Kings Quest 3 Pack! (Kings Quest I, II and III)	£18.50		

ART AND MUSIC	ONLY		ONLY
Digiview (2.0)	£159.00	Digiview Adaptor	£18.50
Sculpt 3D	£59.00	Digipaint	£45.00
Instant Music	£18.50	Aegis Animator/Images	£77.50
Aegis Impact	£47.50	Aegis Video Titler	£53.50
Aegis Draw Plus	£138.00	Aegis Videoscape 3D	£107.50
Deluxe Paint 2	£52.50	Deluxe Print £18.50 Paintworks	£26.50
Deluxe Video	£89.00	Aegis AudioMaster	£34.50
Aegis Sonix	£45.00	K-Minstrel	£22.50
Deluxe Music Con. Set	£52.50		

UTILITIES AND BUSINESS	ONLY		ONLY
Organise	£75.00	Scribble 2	£75.00
Softwood Write & File	£75.00	Softwood File 2	£75.00
HabaDex	£22.50	HabaView	£45.00
K-Data	£37.50	Aegis Diga	£43.00
Textcraft	£42.50	Word Perfect (4.2)	£175.00
Goldspell	£29.00	SuperBase Personal	£79.00
Flipside	£22.50	Butcher	£22.50

LANGUAGES	ONLY		ONLY
MCC Pascal	£69.00	Lattice C (4.0)	£129.00
Cambridge Lisp	£112.50	MCC Toolkit	£29.00
MCC Assembler	£52.50	K-Seka	£37.50
Modula 2 Standard	£79.00	Modula 2 Developers	£119.00

HARDWARE	ONLY		ONLY
Locking Disk Box (80)	£12.00	Furry Mouse Cover	£7.50
Locking Disk Box (40)	£9.00	Mouse Mat	£9.00
A501 Ram and Clock	£99.95	Keyboard Cover	£8.00
3.5in Disks DS/DD (x10)	£15.00	Suncom Joystick	£13.00
Arcade Microswitch Joystick	£17.00	Quickshot Turbo	£13.00
Joystick/Mouse extension	£4.95	Quickshot II	£8.00

All Prices include VAT and FIRST CLASS POST
All Stock Items sent by RETURN OF POST
Telephone (0636) 79097 for 24 HOUR Credit Card Hotline!
Send Cheque, Postal Order or Credit Card details to:

BYTEBACK Dept. CCI. 6 Mumby Close Newark. Notts. NG24 1JE

THE AMIGA GRAPHICS AND SOUND SPECIALISTS

IMAGINE an Amiga dealer that knows so much about Amiga graphics, that even BBC's "Micro File" asked for their advice. **IMAGINE** an Amiga dealer that always gives detailed demonstrations and then checks all systems before they leave the premises. **IMAGINE** an Amiga dealer that will continue giving helpful advice even after you've handed over your money. **UNIMAGINABLE? THEN IMAGINE TRIANGLE TV — THE UNUSUAL AMIGA DEALER**

HARDWARE

AMIGA 2000's
AMIGA 500's
MEMORY EXPANSION
HARD DISCS FITTED
GENLOCKS
RGB — VIDEO ENCODERS
★ **NEW** ★
FLIGHTCASES
(in rigidised grey aluminium)
DIGITIZERS
TRAINING IN ANIMATION AND GRAPHICS
LEASING AND FINANCE

IN STOCK

AEGIS IMAGES
DELUXE PAINT 2 (Full screen)
DIGIPAINT (4096 colours)
DELUXE VIDEO 2
AEGIS ANIMATOR
★ **NEW** AEGIS 3D VIDEOSCAPE
★ **NEW** SCULPT 3D
★ **NEW** ANIMATE 3D
★ **NEW** THE DIRECTOR
★ **NEW** PAGEFLIPPER
TV TEXT
★ **NEW** TV SHOW
PRO VIDEO
★ **NEW** AEGIS VIDEO TITLER
DIGIVIEW (PAL)
MARAUDER
DELUXE PRINT
DELUXE MUSIC
INSTANT MUSIC
PAGESETTER/LASER SCRIPT
CITY DESK DTP

MAIL ORDER AVAILABLE

Triangle Television (Computers)
130 Brookwood Rd., Southfields, London SW18 5DD
Tel: 01-874 3418
Fax: 01-877 1029

VISA

ONCE BYTTEN

PART-EXCHANGE SPECIALISTS

... You think these prices are good? ...

A500 + Modulator + Defender of the Crown + Starglider + Goldrunner + DeLuxe Paint ..... **ONLY £449**
A500 + 1084 MONITOR ..... **ONLY £679**
A500 ONLY + DeLuxe Paint ..... **ONLY £425**
1084 MONITOR ..... **ONLY £269**
SUPRA 512K EXPANSION + CLOCK (A500) ..... **ONLY £99.95**
SUPRA 20mb HARD DISC FOR A500 ..... (RRP £799) **ONLY £695**
ALL OTHER COMBINATIONS OF SUPRA PRODUCTS AVAILABLE AT SIMILAR DISCOUNTS
RENDALE PAL GENLOCK FOR A500/A2000 ..... **ONLY £269**

They are, **BUT** these prices can be reduced *even further* by our generous part-exchange allowances. Ring today for our no-obligation quotation.

DISCS

All our unbranded discs are produced by top manufacturers in either Europe or USA. Our bulk buying enables you to buy the *best* discs at *cheap* disc prices. They are all guaranteed for life and supplied with label sets (and sleeves with 5¼in). They are all *genuinely* double-sided but useable on either single or double-sided drives.

3½in DSDD 135tpi

10 boxed	10	25	50	100	250	500	1000
£11.50	£10.50	£25.00	£47.50	£89.95	£220	£425	£825

5¼in DSDD 96tpi

25	50	100	250	500	1000	5000
£10.50	£19.00	£35	£84	£160	£310	£1500

AMIGA PROGGYS

Xenon £12.95
Flight Simulator II £29.95
Superbase Professional £199.00
Hunt for Red October £14.95
Dark Castle £22.50
Scribble v2.01 ..... £79.95

We can supply nearly every piece of software your Amiga desires. Ring for our latest prices. We often have very limited special offers (e.g. Metacomco Cambridge Lisp only £75.00)

GEOFILE CBM 64/128 DISC Last few only at £9.95

SECONDHAND HARDWARE

CBM 1571 D/S Disc Drive £159
CBM MPS801 Printer ..... £79-£89
CBM 1525 Printer (80 col) £69
CBM 1520 Printer/Plotter £35
Brother HR5C Printer (C64/128) .. £59
Pace Series 4 2400 ..... £350
Quattro Modem £395
CBM 1900M Monitor £75
Supra 20mb for A1000 ..... £495
Digiview (Boxed) £100

We are always looking to buy good condition computers and peripherals for cash. Please ring or write for an instant quote. **BUT REMEMBER** it's worth even more in part-exchange.

ALL THE ABOVE PRICES *INCLUDE* VAT AND CARRIAGE IN THE UK. FOR EUROPE PLEASE ADD 10% TO THESE PRICES. FURTHER AFIELD PLEASE ASK FOR A QUOTE

PHOTO BUFFS!

As we've now opened a Photo Division (**WETZLAR IMAGES**) we can now take camera gear in part-exchange for computers and Vicky-Vercky.

Write to:

59 SWANLEY ROAD, WELLING, KENT DA16 1LL
or phone 01-304 2631

CHEQUES TO AMTEN LIMITED
CALLERS WELCOME BUT PLEASE PHONE FIRST
WE ARE OPEN MON-SAT 9am-10pm

VISA

NEW!

£110

eric graham's raytracing animation package –

Facc II FLOPPY DISC ACCELERATOR £24

WORKS BEST WITH ADDED RAM. CAN MAKE 10 TIMES FASTER

DIGI PAINT PAL £40

upgrade £10

DIGI VIEW PAL

£185 upgrade £10

MICROFICHE FILER £69

ram expansion

2Mb Micron boards from £430

- ★ A2000/1000/500
- ★ Genuine "fast" RAM
- ★ RAM test software included
- ★ No wait state design
- ★ 2 year warranty

8Mb ASDG BOARDS

£430 (unpopulated)

- ★ 8Mb in one Amiga slot
- ★ 2, 4, 6, 8 Mb population
- ★ No wait state design
- ★ Autoconfigures each 2Mb

68020/68881

Increase the performance of your Amiga 2000, 1000, 500 with 68020/68881 processor upgrades from CSA and Hurricane, various speeds from 7 MHz to 20 MHz available. Also available to complement these upgrades – 32 bit memory expansion boards.

MAGAZINES

Amazing Computing .. £3.50
Amiga Sentry £3.00
Info £3.50
Robo City News £2.50

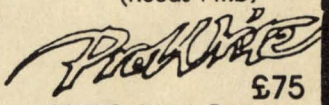
Callers Wed-Sat 12-6
Dealer enquiries welcome
Prices inc. VAT

£47

PROFESSINAL DISPLAY AND ANIMATION

- ★ Create slideshows, show anim files
- ★ All resolutions inc. HAM & PAL
- ★ Page-flipping, text and sound
- ★ Mouse and keyboard entry
- ★ Basic-like command scripts
- ★ Video effects and BLITTER control

DEMO DISKS
£5 each (1) Probe
(2) RGB/Focus
(needs 1 Mb)



£75

WYSIWYG Word Processor with full colour graphics and fonts.

SOFTWARE PRICES

AiRT £55.00
Animator: Apprentice £195.00
Animator: Junior £52.00
Demo Disks £7.00
Library Disks ..... £14.00 to £25.00
Demo Video £25.00
Butcher 2 ..... £27.00
Upgrade £8.00
DiscPro +! £22.00
Dougs Math Aquarium £58.00
Earthbound Fonts £13.00
All three for £36.00
Express Paint £58.00
Forms in Flight £60.00
Outline £36.00
Ray Tracer £11.00
Newsletter 1-3 ..... ea £8.00
4 ..... £3.00
Sculpt 3D £69.00
Demo Disk £4.00

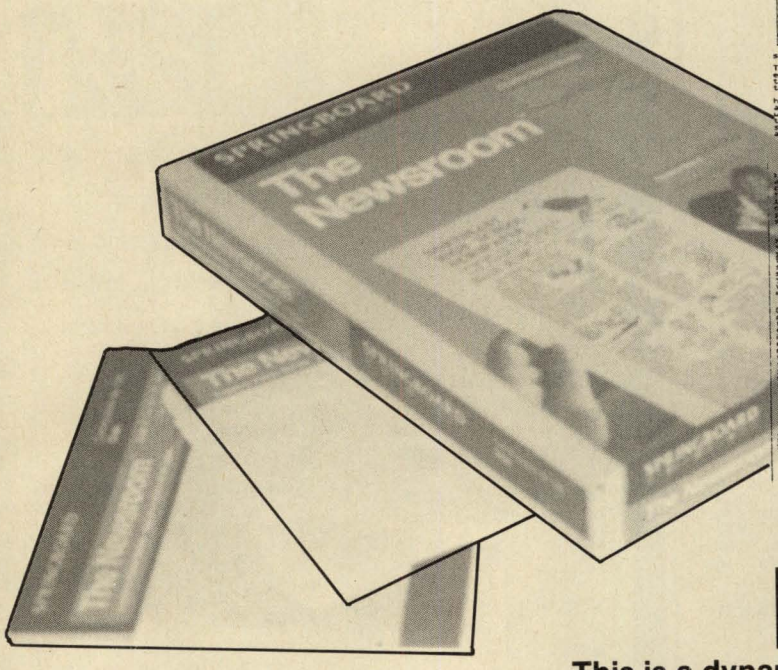
VISA

The AMIGA Centre Scotland
4 Hart Street Lane, Edinburgh EH1 3RN
Tel: 24 hours 031-557 4242

Extra! Extra!

CCI Special Offer!

Only £24.95 inc. p&p



April '88

Newsroom Report

CCI 's Editor caught with trousers down !..Read on

"It's so simple."

Read all about it !

STOP PRESS read on..... STOP PRESS read on.....

SPRINGBOARD'S NEWSROOM!

This is a dynamic program designed to unleash creativity in journalists of all ages

With NEWSROOM you can use your computer to:

★ Design, produce and printout a newspaper for your family, class or business.

★ Select from over 600 pieces of art or design your own with powerful graphic tools.

★ Word process with five type styles and sizes, position your photos and then type will automatically arrange itself around pictures. It is easy to use and simple to correct.

★ Use a modem to send and receive text and pictures.

★ Print out your own newspaper on any popular printer.

★ NEWSROOM comes as a two disk program accompanied by an informative 85-page idea book to tell you all you need to know to begin to create your own newspaper.

Create your own newspaper with a really easy to use software package . . . that is one of the most exciting ideas anyone has made possible through the home computer.

You can now buy NEWSROOM, usually £29.95 through a special CCI Offer for only £24.95 including postage and packing — a saving of £5. NEWSROOM is on disk only for the 64/128.

To: Commodore Computing International
40 Bowling Green Lane, London EC1R 0NE

Please send me ☐ copies of NEWSROOM at the special price of £24.95

Please make cheques payable to Croftward Ltd. or debit my Access Card No.

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature ..... Exp. date .....

Name .....

Address .....

.....

Please allow 28 days for delivery

LAND OF LEGENDS

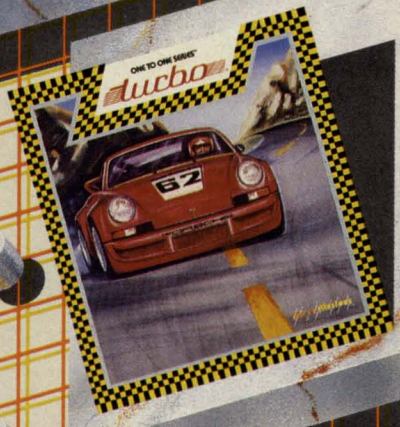
Mystery and excitement await your every move as you sojourn through Land of Legends. This fantasy world populated by brave warriors, powerful wizards, clever rogues and wise priests contains multitudes of towns, villages, dungeons and ancient ruins. Truly the most thrilling of all dungeon type adventures!

Vile creatures oppose your characters at every turn

Delve into forgotten dungeons, but beware of insidious traps

ONE TO ONE SERIES™ turbo™

Turbo is an action packed road war game that delivers continuous shoot 'em up excitement. As you speed through cities, countrysides and treacherous mountains, the game will challenge your greatest skills as you race and battle your rivals to be the first to finish alive! This new One to One Series game features single, double and modem playability!



Modem play

Street combat

PLANETARIUM

For The Serious Student of Astronomy

Planetarium's accurate celestial representations include over 9,000 stars to the 7th magnitude, completely flexible viewing of celestial sphere, latest NASA data, skies from 9999 B.C. to 9999 A.D., optional names and patterns of constellations, and programmable for new discoveries. PLANETARIUM, an astronomical delight!

Location requester/ anywhere on earth's surface

Time and date selection

OTHER PRODUCTS FROM MICROILLUSIONS

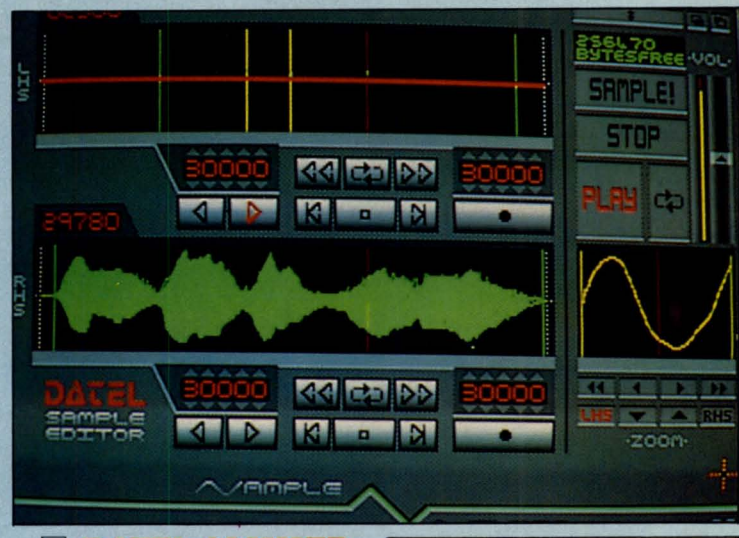
- **THE FAERY TALE ADVENTURE™**
  QUEST & EXPLORATION GUIDEBOOK™ Amiga's number one adventure game's new guidebook!
- **ONE TO ONE SERIES™**
  Fire Power,™ Galactic Invasion™
- **ROMANTIC ENCOUNTERS AT THE DOME™**
  A true to life adult experience!
- **EBONSTAR™**
  Hot arcade style space excitement!
- **BLACKJACK ACADEMY™**
  Everything you ever wanted to know about the game of Black Jack!
- **Discovery™ Expansion Disks**
  Expand the fun of learning!

All Microillusions Entertainment and Education products are developed especially for and available on Amiga, C64/128, MAC, Apple IIGS, and PC/MS DOS/Tandy formats.

microillusions™

17408 Chatsworth St., Granada Hills, Ca. 91344
Inside CA 818/360-3715 • Outside CA 800/522-2041 • FAX 818/360-1464

DATEL ELECTRONICS



AMIGA PRO SAMPLER STUDIO

- A top quality sound sampling system at a realistic price.
- All the usual features of a sampling system plus many more.
- 100% machine code software for realtime functions.
- Hires sample editing.
- Realtime frequency display.
- Realtime level meters.
- Files saved in IFF format.
- Adjustable manual/automatic record trig level.
- Variable sample rate and playback speed.
- Separate scroll line waveform windows plus zoom function with Edit windows for fine accurate editing.
- Hardware compatible with many other software packages.
- Software files can be used within other music utilities.
- Reverse, copy, mix, clear plus other edit facilities.
- Microphone and line input ¼" Jack and Din connections.
- 3D shot of sound waveform. Wave editor to design your own waveforms or adjust existing ones.

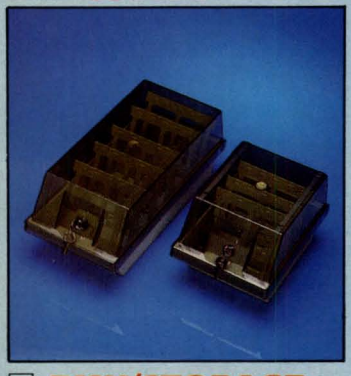
ONLY £69.99 COMPLETE SYSTEM, PLEASE STATE A500/1000/2000

DATEL JAMMER

To complement the Sample Studio the Datel Jammer gives you a 5 octave keyboard to play and record your sampled sounds.

FEATURES:

- 2 and 3 note chords.
- 4 track sequencer up to 9999 events.
- Tempo and Beat Controls.
- Mixer Controls on Instruments.
- Load and Save sequence.
- Works on standard IFF file sounds.



DISK/STORAGE BOX OFFERS

- DD40 holds 40 3½" disks lockable.

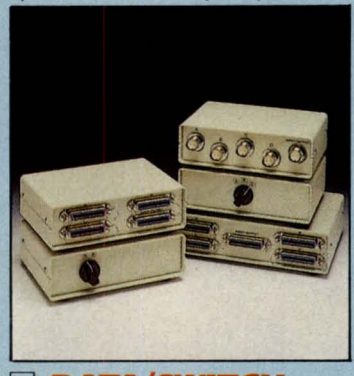
ONLY £6.99

- DD80 holds 80 3½" disks lockable.

ONLY £8.99

- Disks – 3½" D/DS/D.
- Top quality, bulk packed with cables.

ONLY £22.99 FOR 25.



DATA/SWITCH BOXES

- A/B type connect two printers to one computer or (vice-versa).
- Centronics connections or RS232 (Serial) connections (25 pin) please state.

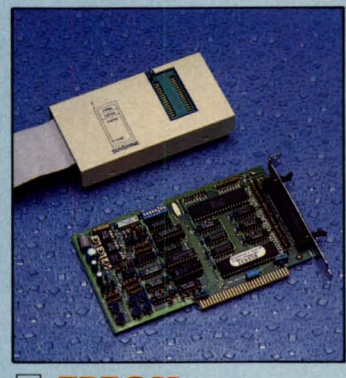
ONLY £24.99

- ABC type connect three printers to one computer (or vice versa).
- Centronics or RS232 connections.

ONLY £34.99

- Intelligent Printer Sharer.
- Share one Printer between four computers.
- Automatic switching – no need to leave your computer.
- RS232 serial or Centronics connections – please state.

ONLY £79.99



EPROM PROGRAMMER

- Easy to use, highly efficient Eprom programmer.
- Programs 2764/27128/27256/ 27512 Eproms.
- Programs 12.5v or 21v.
- NMOS and CMOS types.
- Load and Save File functions.
- HEX and ASCII Dump of Memory.
- Menu driven Program features. BLANK, READ, BURN and VERIFY functions.
- Zero Force insertion socket.
- A500/2000 or 1000 model (please specify).

ONLY £39.99 COMPLETE

PRINTER CABLES

- 25 pin 'D' to 36 way Centronics parallel lead.
- A 500 or 1000 please state.
- 1.2m length.

ONLY £7.99

- 25 pin 'D' to 25 pin 'D' – serial printer lead.
- A500 or 1000 – please state.
- 2m length.

ONLY £7.99

ROBOTARM — Full Function — 5 Axis Movement

- Explore the fascinating science of Robotics with this full feature Robot Arm.
- Human like dexterity – with 5 Axis of movement it is so versatile. It can manipulate small objects with amazing ability.
- Easily controlled using 2 Joysticks (any 9 pin type) or connect to your Amiga with our Interface + Software to give Computer/Robotic control (see Interface offer).
- Comes with Accessories including 'Finger' Jaws, Magnetic Attachment, Shovel Scoop, 4 Stabilizing Suction Base Legs, etc.
- Uses 4 HP2 batteries (not supplied) to power motor movement so uses no computer power.
- Self contained, ready to use (except batts, joysticks).

ONLY £39.99

INTERFACE OFFER

- Unique Software/Hardware package to allow you to interface your Amiga with the Robotarm.
- Train mode allows you to store and then repeat movement sequences.
- Very easy to use.
- This Interface is not needed to use the Robotarm but interfacing with your Amiga has great possiblities.

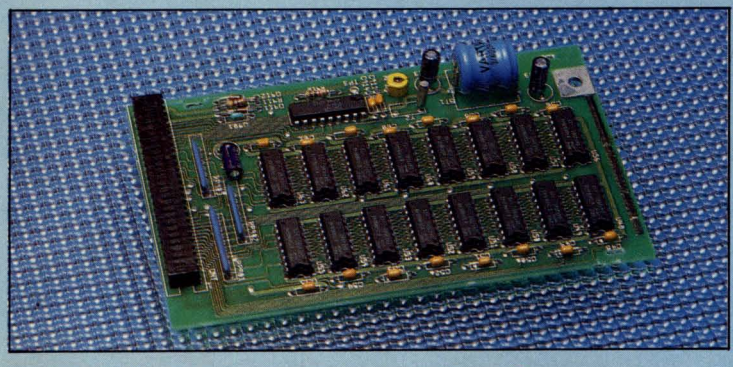
ONLY £19.99
COMPLETE WITH CABLES.

DATEL ELECTRONICS

EXTERNAL 3.5" DISK DRIVE

- Slimline 1 Meg suitable for A500 or 1000
- Top quality NEC drive mechanism
- Throughport for Daisychaining other drives
- Attractively styled ● Complete – No more to buy
- 12 months guarantee ● Fully compatible

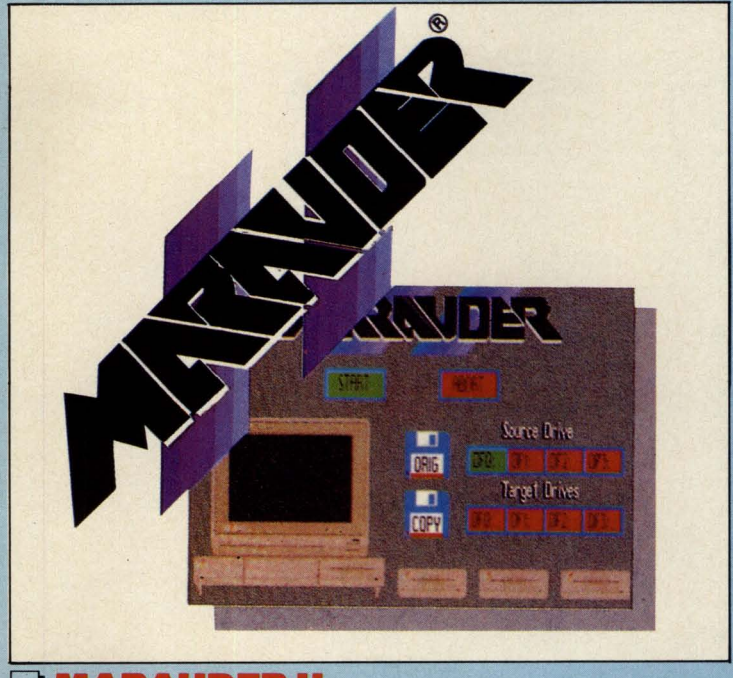
ONLY £114.99 POST FREE
ADD (£5 for next day Courier delivery).



512K RAM EXTENSION ● A500

- Available with/without calendar clock option
- Simply plugs internally into a A500 slot
- Fitted in minutes – no soldering etc.
- With calendar/clock onboard time/date automatically booted
- Battery backed to retain time/date

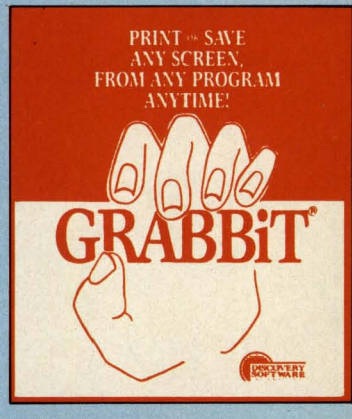
ONLY £79.99 FOR STANDARD 512K CARD OR
ONLY £89.99 FOR VERSION WITH CLOCK/CALENDAR



MARAUDER II

- **Quite simply the best disk copier available for the Amiga (all models)**
- Superfast disk copier will copy almost any commercial disk
- Friendly user Interface – Mouse driven throughout.
- Completely compatible with Amiga multitasking system
- Even decrypts many encoded programs including D.Print/Video/ Paint/Music/II etc.
- Special 'Strategy Files' cope with even the most advanced protection schemes
- Supports upto 5 drives simultaneously for multiple copies
- Regular updates available – we always ship the latest
- Fast operation – typically around 80 seconds
- USA's top selling copier

ONLY £29.99 POST FREE



MIDIMASTER

- Full Midi Interface for A500/ 2000/1000 (Please state model)
- Compatible with most leading Midi packages (inc. D/Music)
- Midi In – Midi Out x 3 – Midi Thru
- Fully Opto Isolated
- No need to pay more – Full Midi standard

ONLY £34.99

GRABBIT

- Grabbit is a transparent Screen Grabber program
- Always there – simple key operation
- Drives dozens of Printers
- Requires only 10K Ram
- A true productivity tool!
- Very quick operation – does not require screen on during printing
- Free "ANYTIME" program lets you update your own colour palette preferences.

ONLY £21.99 POST FREE

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER . . . .

BY PHONE	BY POST	BY PRESTEL/FAX
0782 273815 24 hr Credit Card Line	Send cheques/POs made payable to 'Datel Electronics'	Prestel Pages # 25880000A Fax Orders 0782 264510

DATEL ELECTRONICS

UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT.

SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

Feature

ADD-ON GUIDE

Here is our up-dated Add On Guide, covering what's available to enhance considerably your computer's potential and give value for money. The Guide covers products which can prove to be very worthwhile investments.

MUSIC ADD-ONS

MUSIC MAKER	Turns C64 into keyboard. With new overlay for C64.	64,C128	£19.95	Music Sales 01-434 0066
PLAY ALONG ALBUMS	3 available: Pop, classics, Beatles. 12 songs. Auto playback or will teach to play melody.	64,C128	£9.95	Music Sales
SOUND STUDIO	2 programs in one. (1) turns computer into synthesizer. On screen controls. 60 sounds in memory. (2) Sound recording studio (3 channels). Real step time.	64,C128	£14.95	Music Sales
SOUND SAMPLER	Hardware and software package with audio lead and mike. Samples and digitizes sound. Editing facilities. Pitch sampler. Drum and echo facilities	64,128	£69.95	Music Sales
SOUND EXPANDER	Hardware and software package. Gives 64 extra sounds. Turns computer into generator using FM technology. Enables 11 voices to be used at one time. Easy play features built in.	64,C128	£99.99	Music Sales
FIVE OCTAVE KEYBOARD	For use with Sound Expander	64,128	£79.95	Music Sales
FM COMPOSER AND EXPANDER		64,C128	£29.95	Music Sales
MICROVOX	Package consists of sampling unit, system disk (with startup) samples) and Library disk. The sampling unit has two programmable 24 dB/octave filters and gives a S/N ratio of 59 dB.	64	£229.95	Supersoft 861 - 1166

Disk/Wafer Drives

1541C	Single disk drive unit, provides greater storage capacity (170 K) faster retrieval than a cassette unit.	64,C128	£169.99	CBM UK Commodore 0628 770088
1581	3.5 inch disk drive.	64,C128	£199.99	CBM UK
EXCELERATOR +	Ultra compatible, compact size. Very quiet. 1 year guarantee. 20% faster than 1541C.	64,C128	£129.95	Evesham 0386 765500
EXCELERATOR +	Plus GEOS and FREEZE MACHINE	64,C128	£149.95	Evesham

1571	Double sided. Fast access times, quiet in operation, half height.	64,C128 When used with 64 it is 1541 compatible.	£199.99	Commodore

Speech Recognition & Synthesis

SWEET TALKER	Synthesiser - allophone system, 3" square, 1.5" high, gives examples and demonstrations. Shape and colour as Commodore.	64	£24.95	Cheetah 0222 777377

SPEED LOADERS

ACTION REPLAY	For full details see pages 34 and 35 CCI - March 1988. What a great invention!	64,C128	£29.99 post free	Datel 0782 273815
FREEZE MACHINE	For speed, power and ease of use - Get it today! See page 61 CCI March 1988.	64,C128	£28.95	Evesham
TURBO PLUS	Add turbo to BASIC or machine code filers for faster loading. Also scrolls listings up or down.	C16,+4 (with cartridge)	£19.95	Anco 0322 522631
QUICKDISC	Cartridge plugs into 64 and 1541 + 1570. Can be switched in and out from the keyboard. Fast format. fast backup, fast file copier. Reset switch. Improved DOS commands. Is compatible with printers and second drives. Cure for 'save @ bug'.	64	£19.95	Evesham
TURBO 64	A disk specially formatted with the fast load feature built in. Once the disk is made it will load on any unmodified C64 and 1541 disk drive without having to load anything first. Loading time is five times faster and programs can be selected and run from a menu by the press of a single key.	64	£19.99	Cockroach 0633 440434
FINAL CARTRIDGE III	Innovative hardware combined with smart software allow you to freeze and continue every well-known C64 program. See page 42 CCI March 1988.	64,C128	£39.99	Datel
EXPERT CARTRIDGE	Program paralyser, Sprite extractor. Hires screen, Grabber, Programmable.	64,C128	£29.99	Trilogic 0274 691115

Joysticks/Trackerballs

RAM DELTA	6 Micro switches, 2 fire buttons, Auto fire.		£9.99	Ram 0252 850031
COMPETITION PRO 'CLEAR'	Same as competition Pro but with a clear case.		£15.95	Dynamics 061 - 6267222
COMPETITION PRO 5000	Micro switched stick, Two buttons, Large comfortable base.		£14.95	Dynamics
COMPETITION PRO EXTRA	The top of the range deluxe version with micro switched buttons. Auto fire and and a special slow action button. Tony Horgan's favourite.		£16.49	Dynamics

continued on next page

TERMINATOR	Could be mistaken for a real hand grenade. Short metal shaft and a metal strip on the front as a fire button. Both stick and button are micro switched.		£19.95	Robtek 847 - 4457
THE CRUISER	The cheapest joystick reviewed in CCI. For tabletop use with four suckers on base but can be hand held. Two microswitched buttons and adjustable stick tension. Very attractive red, white and blue design. Good value for money.		£9.95	Leisuresoft 0604 - 768711
ELITE	Small joystick with little base to grip. Auto fire button, Micro switched stick, accurate with diagonals. Good for small hands.		£15.95	Euromax 0262 - 602541
MICRO HANDLER	Large tabletop design with steel casing. Micro switched buttons and stick. 2 knobs act as paddles 1 knob controls auto fire speed. well designed but with flaws.		£24.95	Euromax
DELTA 3SC	Black or black with red stripes, 3 fire buttons, light fast action.	64,VIC 20 C128	£12.95	Voltmace 0462 894410
VULCAN GUNSHOT I	Cream and beige, 2 fire buttons, suction pad underneath.	64,VIC 20 C128	£7.95	Vulcan 01-203 6366
VULCAN GUNSHOT II	Black, 2 buttons, auto fire, suction pad underneath.	64,VIC 20 C128	£8.95	Vulcan
QUICKSHOT 1	Black and red, 2 fire buttons.	64,VIC 20	£7.95	Spectravideo 01-330 0101
QUICKSHOT 2	Black and red, 2 fire buttons, Auto fire.	64,VIC 20	£9.95	Spectravideo
QUICKSHOT 2 TURBO	Red, 2 fire buttons + auto. Micro switched.	64,VIC 20	£14.95	Spectravideo
PROFESSIONAL	Accurate, dual fire buttons, auto fire select.		£19.95	Euromax
QUICKSHOT II+	Microswitches, large grip, dual stick fire buttons.	64,C128	£12.99	
FANTASTICK F3	Dual fire button for left handed people.		£6.99	Palan 368 - 5545
STAR TRACK	Large pad design with control buttons instead of a joystick auto fire and burst fire mode.	64,C128	£18.95	R.H. Design 0423 880520
125 SPECIAL	Black and red. 4 auto fire buttons and centre return.	64	£12.99	Cheetah 0222 555525
AUTO FIRE	As Speedking but with auto fire function.	64	£12.99	Konix 0495 350101
MACH 1	Black with 4 red buttons. Moulded handgrip and an auto fire switch	64,VIC 20	£14.95	Cheetah
SPEEDKING	Hand held, moulded case, one trigger fire button.	64,C128 C16,+4, VIC 20	£11.99	Konix

DIGITISERS

COMPUTEREYES	It will digitise from camera, video recorder, video disk and images can be stored on disk. Also enhancements to allow the	64	£129.00+ VAT	Stem 0382 65113

continued on next page

Evesham Micros

ONLY £99.95 inc. VAT

STOP! STOP! STOP!

Why pay more?

We can supply you this ultra neat, high quality Amiga 2nd drive for an ultra low price

FEATURES

- One year guarantee
- 880K formatted capacity
- Very quiet
- Slimline styling
- Throughport
- Fully compatible
- Suits A500 or A1000
- Top quality Citizen drive mechanism
- Long cable for location left or right of computer

All prices VAT/delivery inclusive. Next day delivery £5.00 extra.

How to order

Send cheque P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
Same day despatch whenever possible
Callers welcome, open 6 days 9.30-5.30
All offers subject to availability, E.&O.E.
TELEX: 333294 FAX: 0386 765354

Evesham Micros
63 BRIDGE STREET
EVESHAM
WORCS WR11 4SF
Tel: (0386) 765500

ALSO AT: 1756 PERSHORE RD., COTTERIDGE, BIRMINGHAM, B30 3BH TEL: 021 458 4564

AMIGA BOOKS, CUMANA DRIVES AND GAMES OFFERS

KIDS AND THE AMIGA (COMPUTE!) £12.95

Despite its title, this book is ideal for anyone wanting to learn BASIC on the Amiga. Explained in non-technical terms and with lots of illustrations, this is an ideal book for all Amiga newcomers. 268 pages.

ELEMENTARY AMIGA BASIC (COMPUTE!) £12.95

More than just a programmers manual, this book is a complete primer in the fundamentals of BASIC programming on the Amiga. All the main features of this 16-Bit computer are discussed, including: Screen and Window creation, Menu Design & Display, Music Composition, Sound Effects, Text Display & Format, Speech, Sprite Manipulation, and much more. Suitable for Beginner to Intermediate level programmers. 199 pages.

AMIGA DOS REFERENCE MANUAL (COMPUTE!) £14.95

This book is both an easily understood tutorial and a comprehensive reference guide. You are taken step-by-step through the intricacies of AmigaDOS, from creating a CLI disk which bypasses the Workbench to building your own command sequence files. Thoroughly illustrated with practical examples, it lets you quickly explore the CLI and AmigaDOS. 254 pages.

AMIGA PROGRAMMERS GUIDE (COMPUTE!) £14.95

A comprehensive guide to programming the Amiga. Whether you program in BASIC, C, or Machine Code, you'll find plenty of information to tap the powerful features of the Amiga. Kernel, Intuition and DOS program examples in C & Machine Code, plus useful utilities and Ref. Tables. 458 pages.

INSIDE AMIGA GRAPHICS (COMPUTE!) £14.95

Exploit your Amiga's amazing graphics potential with this book. Topics discussed include: using the Blitter Chip, Screen Displays, Windows, Animation and much more. Program listings in BASIC, C and Machine Code. 303 pages.

AMIGA APPLICATIONS (COMPUTE!) £14.95

With 29 different applications discussed — from Games to Financial programs, there's something in this book for every Amiga user. All the programs are simple to enter as they are written in Amiga BASIC. 439 pages.

ADVANCED AMIGA BASIC (COMPUTE!) £16.95

More than a reference manual, this book is a tutorial offering dozens of utilities and programs, covering everything from Graphics and Sound to Subroutines and Library calls. Suitable for intermediate to advanced level programmers, this book also includes 'MouseSketch' graphics program, a BASIC Keyword Ref., ISO Printer codes, and much more. 464 pages.

OPTIONAL PROGRAM DISKETTE FOR COMPUTE! TITLES £9.95 each

If you prefer not to type in the programs in the Compute! range of books or simply just do not have the time, then why not purchase a disk with the programs already there? Available for all the Compute! book titles, they contain most of the programs found in each book.

OTHER BOOK TITLES

Programming the 6800 (Sybex)	£22.95
Amiga DOS Manual (Bantam)	£22.95
Programmers Guide to the Amiga (Sybex)	£24.95
Amiga Programmers Handbook (Sybex)	£24.95
Inside the Amiga with C (Sams)	£19.95
Amiga Hardware Ref. Manual (Addison-Wesley)	£23.00
Amiga Intuition Ref. Manual (Addison-Wesley)	£23.00
Amiga ROM Kernel Ref. Manual: Exec (Addison-Wesley)	£23.00
Amiga ROM Kernel Ref. Manual: Libs & Devices (Addison-Wesley)	£33.00

OTHER AMIGA BOOK TITLES AVAILABLE ON REQUEST — TEL: 0706 43519

SAM BASIC (Multi-Tasking) £89.95

SAM BASIC was designed specifically for the Amiga. Its many features include the ability to multi-task up to 32 BASIC programs simultaneously, Structured programming, e.g. REPEAT..UNTIL, etc. SAM BASIC comes in separate Modules, e.g. Graphics, Sound, etc., so you can load only the module you require to obtain more programming memory. Runs twice as fast as Amiga BASIC, and with a Runtime Library for stand-alone programs. New extensions are currently being developed. Send for info sheet.

CUMANA 1 MEGABYTE AMIGA DISK DRIVES — £TELEPHONE FOR THE BEST DEAL!

PSYGNOSIS GAMES OFFERS

OBLITERATOR £15.95 TERRORPODS £15.95 BARBARIAN £15.95
DEEP SPACE £15.95 ARENA & BRATACCAS £19.95

PRICE MATCH — if you can find any of the above goods cheaper in this issue of CCI/AMIGA USER then we will match it. State Advert.

ACCESS ORDERS/ENQUIRIES WELCOME — TELEPHONE 0706 43519

P&P FREE IN THE U.K., OTHERWISE ADD £1 PER ITEM. SEND CHEQUE/P.O. TO:

16-BIT SOFTWARE,
24 Bankfield Lane, Rochdale, Lancashire OL11 5RJ

use of Computereyes with some of the popular graphics packages for the Commodore.

MISCELLANEOUS

DATAPAD 16C	Keypad in a strong metal case. It plugs in externally and comes complete with software to define the keypad to your choice of layout.	64	£34.95	Voltmace 0462 894410
CENTRONICS CABLE	Converts 64/20 to Centronics output.		£11.17+ VAT	RAM 0252 850031
DATEL SAMPLER	Hardware incorporates full 8-bit D to A and ADC conversion. Software includes sample editing.	64,C128	£49.99	Datel 0782 273815
MCS PLUS	Combines interface, MIDI link and comprehensive disk software.	64,C128	£225.00	Joreth Music 0386 831615
THE LINKER	System 7 for DX78TX7 synths.	64	£219.66 (Software only £79.99)	Joreth Music
AMS	Editor, keyboard, linker synthesiser and MIDI modules	64,C128	£39.95	Rainbird
COMDRUM	Digital drum software. 20 voices, full sequencing and editing.	64,C128	£9.95	Datel
TROJAN LIGHTPENS	Black. Will draw freehand, can magnify or reduce, can fill in with either colour or 2 different patterns.	64,VIC 20, +4,C16	£19.95	Trojan 0792 205491
RAM PACK	New from F.S.S. A RAM expansion pack to 512K.		£149.95	Financial Systems 0905 611463
DESK TOP	Includes 100 year calendar calculator, diary, clock, communication facilities, disk utilities etc. Use with mouse, joystick or keyboard. Cassette and disk.	64,C128	£18.50	Wigmore House
KEYBOARD COVERS	Great strong and goodlooking cool grey and yellow covers to protect your Commodore in style.	64,C16,+4 C128,64C	£3.99 +p&p	CCI 01-278 0333 Ext. 274

MICE

TURBO GEOS MOUSE	Two button mouse, compatible with Geos and most joystick programs.		£34.95	CCI
THE MAGIC MOUSE	Mouse, tape and disk software.	64	£59.95	SMC 01-441 1698
MS 2000 V	Optical encoding and comprehensive cassette + disk based software.	64,C128	£69.00	Wigmore House
NEOS MOUSE	Cassette only. Software called Cheese.	64,C128	£44.90	Wigmore House
1351	Works with Geos 64/128 CADPACK and most drawing packages.	64,C128	£29.95	Financial Systems.
AMX MOUSE	Outstandingly effective add-on to your 64/128 with perfect control and accuracy. "One of the best in the World." Package includes the Stop Press DTP.	64,C128	£59.99 inc. p&p	CCI

INTRODUCING A NEW DIMENSION IN MANAGEMENT DATABASE SYSTEMS

NOW EXTEND YOUR REACH

Superbase Professional is one of the most advanced databases ever produced for the Amiga™. It represents a technical and commercial breakthrough which will allow you to advance your expectations of a database beyond that of any existing system. Superbase Professional was conceived as a 'no limits' database; your only limitation is the capacity of your machine. Whatever the application, Superbase Professional has the power to achieve it.

The Graphics Applications Generator

With the Superbase Professional Forms Editor you can create custom applications relating multiple files. It is a unique graphic design tool used to create forms using patterns, lines, boxes, text fonts, graphic images and fields from any file – in colour. Superbase Forms possess the intelligence to generate linked records, then retrieve and display them automatically without any programming. It is the ideal developers tool.

Total text integration

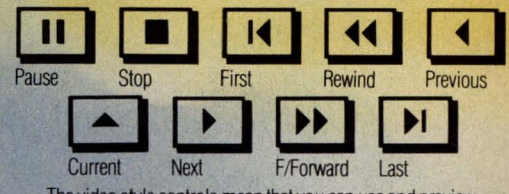
An integral text editor allows a mail merge interface to the database and the ability to link text files to records. The Superbase text editor allows you complete freedom to use any amount of text within your database files or can be used simply for your day to day correspondence and typing requirements. Superbase Professional can search any ASCII text file even if it wasn't created by Superbase.

Database Management Language

Superbase Professional's unique Database Management Language gives you access to all the power of your computer. Should you need to, this fourth generation programming language allows you to write entire applications in just a few lines of program code.

As easy to use as a VCR . . .

With Superbase Professional you have data retrieval at the press of a button.



The video style controls mean that you can use and preview your data with the minimum of effort.

. . . with unlimited processing potential

All the field types of a powerful modern database including date and time arithmetic, cross file lookup, calculation and validation allow you to exploit your data to the full.

Unrivalled ease of use with unsurpassed power: a combination not achieved until now.

Professional back-up

Superbase Professional has the full backing of Precision Software's technical team. 20 hours FREE telephone hotline during normal working hours for the 90 days following registration, and Extended Support Schemes to suit all users for purchase after that time.

Minimum System Requirements
Version 1.2 system software
1 floppy disk drive 512K RAM (1 megabyte recommended)

Price: £249.95 (inc VAT)

Registered users of Superbase Personal write for upgrade price and procedure.

Superbase™ PROFESSIONAL

Precision Software acknowledge all trademarks

Precision Software

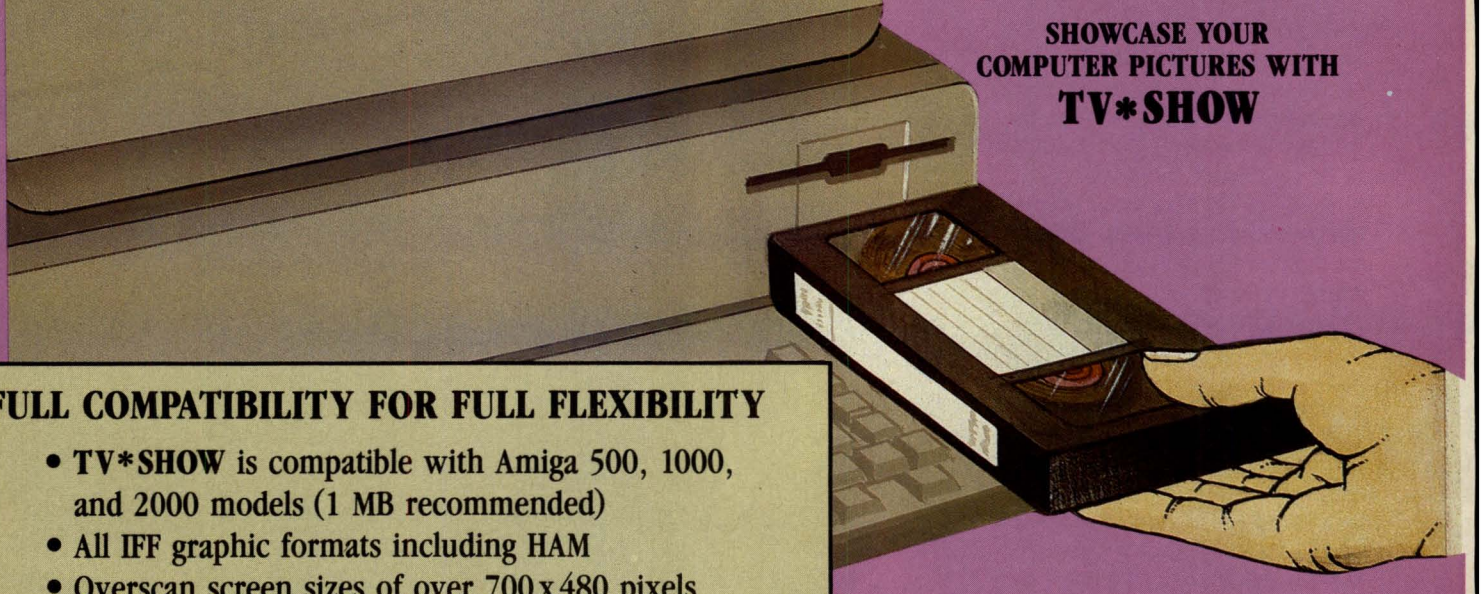
For further details contact
Precision Software Limited, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ.
Tel (01) 330 7166, Fax (01) 330 2089, Telex 8955021 PRECIS G.

SPECIAL EFFECTS SLIDE SHOW

TV SHOW

Now you can produce your own animated presentations on the Commodore-Amiga or video tape. Use any IFF pictures and over 50 exciting transitions including rolls, reveals, wipes, flys, fades, color cycling and more. Each picture can remain on screen for a preset time or until a keyboard entry is made. Now really get fancy. Fly or wipe object brushes onto the screen. Experiment all you want — you can play any portion of your script at anytime during your editing session! Incredibly easy. Lights, camera, ACTION!

SHOWCASE YOUR COMPUTER PICTURES WITH TV*SHOW



FULL COMPATIBILITY FOR FULL FLEXIBILITY

- **TV*SHOW** is compatible with Amiga 500, 1000, and 2000 models (1 MB recommended)
- All IFF graphic formats including HAM
- Overscan screen sizes of over 700 x 480 pixels
- NTSC/PAL video standards
- Genlock for video production

Developed by

Zuma Group

Incredibly priced at:

£99.95

Other products by **Zuma Group**:
Zuma Fonts Vol. 1, 2, 3 - $34.95 each
TV*TEXT - $99.95

See your local dealer or call:

Brown-Wagh Publishing

1-408-395-3838 *(in California)*
16795 Lark Ave., Suite 210, Los Gatos, CA 95030

Dealers call: H.B. Marketing 01-844 1202
Microdealer 0908 74000
or Software Ltd. 01-278 2377

AMIGA 500

1084 MONITOR
MPS 1200 PRINTER
THE WORKS {INTERGRATED BUSINESS PACKAGE}
TRANSFORMER {IBM AT EMULATOR}

ONLY £699 + VAT

THE VDAMIGA VD3 REAL-TIME DIGITIZER PAL AND NTSC STANDARD

VD3 - £550 + VAT

The VDAmiga allows the user to take an input from a video and convert it to an Amiga format.

THE VD3 + COLOUR DIGITIZER

VD3 + - £795 + VAT

The VD3+ allows the user to digitize in full 4096 colour from any video source including tape.

3.5" EXTERNAL DRIVE

£115 inc.VAT

GENLOCK

£285 inc.VAT

5.25" EXTERNAL DRIVE

EXTERNAL POWER SUPPLY WORKS WITH 500, 100 AND 2000

£175 + VAT

POLAROID PALETTE

with Liquid Light interface

£1350 + VAT

The system allows the user to take Full colour pictures of the screen with great ease.

THE AMIGA CRP GRAPHICS TABLET

A3 - £595 + VAT **A4 - £360 + VAT**

Resolution:	0.1 m.m. or 10 point/m.m., or 250 points per inch.
Absolute Accuracy:	+/- 0.5m.m. (0.020")
Surface:	Harmless to magnetic media, does not interfere with nearby devices.
Compatable:	Compatable with Dpaint II, Graphicraft, Digipaint.

BUROCARE

WE STOCK A WIDE RANGE OF SOFTWARE.

FOR ALL YOUR AMIGA REQUIREMENTS

BUROCARE COMPUTER SYSTEMS

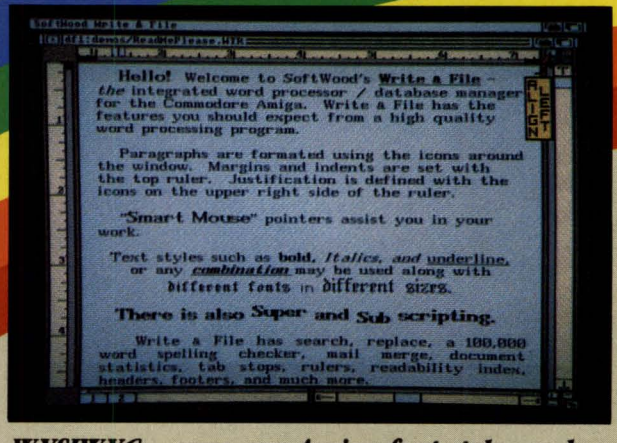
211 KENTON ROAD, KENTON, HARROW, MIDDLESEX HA3 OHD

TEL 01-907 3636 FAX 01-907 0027

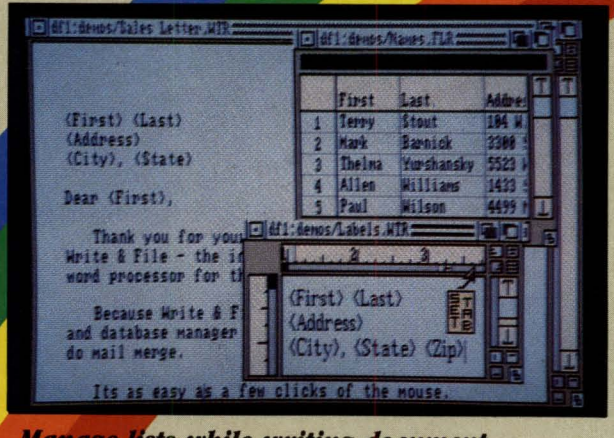
Softwood
WRITE & FILE
Integrated Word Processor/Database Manager

Multiple Font Styles, Spell Checker and Powerful Features make **Write & File** a SUPER Word Processor. The Integrated Database Manager for Reports and Mail Merge Make it SUPERB!

- Features unique "Smart Mouse" and "Undo"
- Search/replace; headers, footers; hor/vert. rulers
- Prints in graphics (pretty) or text (fast) modes
- Includes over 100,000 word dictionary
- Supports foreign letters, paper size, currencies


Hello! Welcome to SoftWood's Write & File - the integrated word processor / database manager for the Commodore Amiga. Write & File has the features you should expect from a high quality word processing program.
Paragraphs are formated using the icons around the window. Margins and indents are set with the top ruler. Justification is defined with the icons on the upper right side of the ruler.
"Smart Mouse" pointers assist you in your work.
Text styles such as bold, Italics, and underline, or any combination may be used along with different fonts in different sizes.
There is also Super and Sub scripting.
Write & File has search, replace, a 100,000 word spelling checker, mail merge, document statistics, tab stops, rulers, readability index, headers, footers, and much more.

WYSIWYG — uses any Amiga font styles and sizes



Manage lists while writing document

- Views multiple database records at a glance
- Manages data in rows/columns like a spreadsheet
- Sorts and searches on multiple criteria
- Calculates fields using math formulas
- Merges lists with documents for labels/envelopes

The First to Provide a DOCUMENT READABILITY INDEX!

Developed by: SoftWood

Incredibly priced at:

£99.95

See your local dealer or call:

Brown-Wagh Publishing

1-408-395-3838 *(in California)*
16795 Lark Ave., Suite 210, Los Gatos, CA 95030

Dealers call: H.B. Marketing 01-844 1202
Microdealer 0908 74000
or Software Ltd. 01-278 2377

Amiga is a registered trademark of Commodore-Amiga, Inc. Write & File is a trademark of SoftWood Company.

DRIVE ALIGNMENT

1541-1571

Andy Eskelson takes a close look at a solution to an all too frequent problem

It is a sad fact of life that mechanical things will tend to wear and go out of adjustment, the prime example being the car petrol engine. How often does that need attention? Well the same is true for the disk drive of a computer system. A disk drive is basically a very simple device but it is extremely accurate in two areas; rotational speed and position.

Firstly consider what a disk is. It is a a round piece of mylar coated with a magnetic material on both sides, enclosed in some sort of protective jacket. Data is stored on a disk in a series of concentric tracks, rather like the music tracks on an L.P. but unlike the L.P. the tracks are NOT spiral but circular. This is important to the way the disc drive works. Just like any magnetic recording the magnetic surface is moved so that it passes over a record/replay type of head (the same principle as in a cassette recorder, but much finer). To do this the disk is rotated at a given speed (normally in the range of 300 rpm). To be able to read a track of data the head must be positioned exactly over the required track.

There are two motors fitted in a disk drive, one is the main drive motor that spins the disk and the second is a device called a stepper motor. This will move a few degrees when energized in a certain way. Mounted on the shaft of this motor is a mechanism that will move the head across the surface of the spinning disk. It is the position and speed of these two motors that sometimes needs adjustment. They can go out of adjustment for a number of reasons, mainly due to a hard knock or being dropped. Another cause is some of the stupid protection methods that have been known to hammer the head against the end stop repeatedly.

To provide a DIY alignment kit you need a program and a special disk. Free Software Inc. have produced such a kit and I must say that it works very well.

Now the warnings . . .

UNDER NO CIRCUMSTANCES ATTEMPT TO ALIGN A DRIVE IF YOU ARE UNSURE WHAT TO DO. YOU WILL VOID ANY WARRANTY THAT YOU MAY HAVE. IT IS ALSO EASY TO DAMAGE THE DRIVE MECHANISM WHEN THE UNIT IS OPEN. REMEMBER, TOO, THERE IS A SAFETY HAZARD AS WHEN OPEN, MAINS VOLTAGES ARE EXPOSED!

A considerably expanded version of the above warnings are presented when the system is booted. This program is one of the few that will run on the 128 in 80 col mode as well as on the C64, so it is very suitable for users of either machine. The disk is a double sided "flippie" the reverse side contains the special alignment information. All the main instructions are contained within the program, and this is my only moan about this program. I would have preferred to have had a hard copy to refer to. Once the alignment program is loaded then you just select various options from the main menu and follow the instructions.

For such a complex task the method is very simple, just a matter of adjusting the position of the stepper motor and retightening the holding screws but it is a slow process and takes quite a while to do. By the time you strip down the drive, align it and reassemble it, you will have spent the best part of an afternoon, especially if you have done this before.

The program comes with a few sheets of information that show with diagrams the adjustment screws for the various drives and models that this program caters for. There is also a section describing a method that may help when loading the alignment program if your drive is that far out of alignment!

This is a very good system but like any drive alignment it is NOT the sort of thing that you should undertake lightly. To be honest if you know someone with a technical background then I would advise you to enlist their help especially for the first time. At the end of the day this program certainly does produce the goods and in a very competent manner. The drives that are catered for are:

1. 1541
2. 1541C
3. SX-64 drive
4. 1571

Price: £24.95.

Contact:
Financial Systems Software.,
2nd Floor,
Anbrian House,
St. Marys Street,
Worcester. WR1 1HA
Tel (0905) 611463.

LONDON'S LARGEST DISPLAY OF PRINTERS MONITORS COMPUTERS AND PERIPHERALS

HI VOLTAGE

The London AMIGA Centre

OPEN MONDAY-SATURDAY 9 AM-6 PM

OPEN MONDAY-SATURDAY 9 AM-6 PM

AMIGA A500

All Amiga A500's Include Work Bench, Basic, Utilities, Manuals, Deluxe Paint and Tutorial.

A500 £395

Pack 1 A500, TV Modulator. 10 Public Domain Disks, 5 Blank Disks, Mouse Mat and Dust Cover. **£434**

Pack 2 A500, TV Modulator. Bratacus. Swooper. Arena. Hollywood. Poker. GFL Football. Baseball. Golf. Cruncher. Demolition. Spacebattle. **£479**

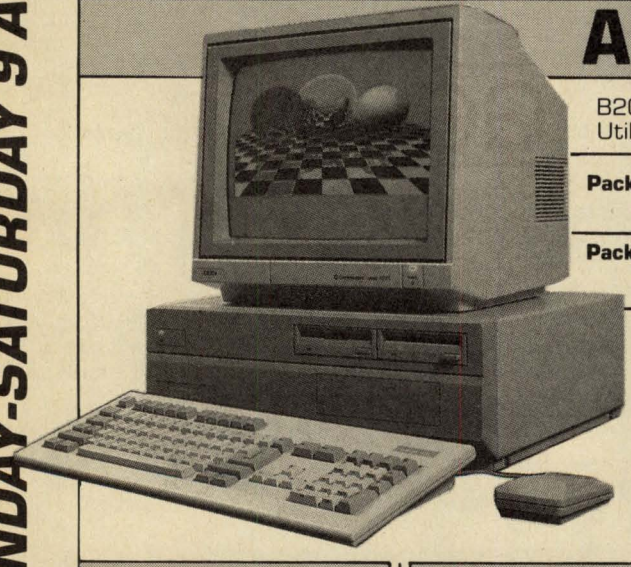
Pack 3 A500, 1084 Monitor. Pro-Write Word Processor. Epson LX800. Amiga Printer Cable. **£839**

Pack 4 A500, Colour Montior. **£599**

A500 Accessories

TV Modulator	**£21**	Cumana CAX354	**£109**	Amiga Printer Cable	**£12.50**	Philips 8833 Monitor	**£239**	Amiga 1084	**£286**
A501 512K Expansion	**£95**	Dust Cover	**£4.80**	10 x DS/DD	**£10.50**	Philips 8852 Monitor	**£245**		

AMIGA B2000



B2000 Includes Work Bench, Basic, Utilities, Manuals and Deluxe Paint. **B2000 £950**

Pack 1 B2000 Colour Monitor **£1139**

Pack 2 B2000 A2010 Internal Drive, Colour Monitor **£1299**

Pack 3 B2000 Colour Monitor. XT Bridge Board, 30Mb hard disk. **£1825**

Pack 4 B2000 Mono Monitor. Scribble 2 Word Processor **£1079**

B2000 Accessories

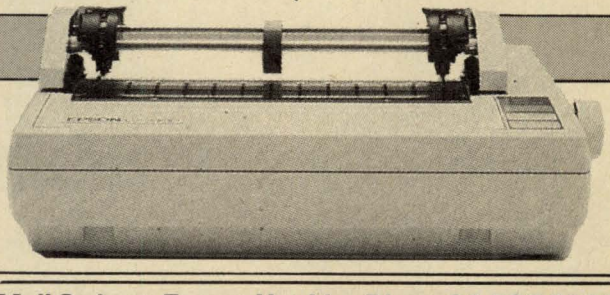
Cumana CAX354	**£109.57**
Philips 8833 Monitor	**£239.00**
Philips 8852 Monitor	**£245.00**
Amiga 1084 Monitor	**£286.00**
NEC Multisync Monitor	**£499.00**
A2010 Internal 3½" Drive	**£173.00**
A2052 2Mb Ram Expansion	**£347.00**
A2088 XT Bridge Board	**£435.00**
A2286 AT Bridge Board	**£609.00**
A2094 Amiga 20Mb Hard Disk	**£539.00**
30Mb MS DOS XT Hard Disk	**£279.00**
10 x DS/DD Disks	**£10.50**

SOFTWARE

Scribble 2	**£60**
Analyze 2	**£105**
Pro-write	**£86**
Deluxe Video 1.2	**£57**
Deluxe Paint II	**£57**
Deluxe Music	**£57**
Publisher 1000	**£130**
Zuma Fonts 1,2,3 each	**£26**
Alegra 512K for A1000	**£199**

Over 100 Amiga titles off the shelf. We will match any UK dealers price for Amiga Software that is in stock.

PRINTERS



Panasonic 1081	**£156**
Star LC10	**£199**
Star NB-2410 24 pin	**£429**
Epson LX800	**£184**
Epson FX800	**£299**
Epson EX800	**£389**
Epson LQ500 24 pin	**P.O.A.**
Epson LQ850 24 pin	**£449**
NEC P2200 24 pin	**£349**
Colour Printers	
Oki Mate 20	**£173**
Olivetti DM105	**£189**
Epson EX800	**£449**
NEC P7	**£599**

Mail Order + Export Hot Line Phone 01-686 6362

Delivery by Securicor (4 day) please add £5.75 per item.
Delivery by Securicor 24 hour please add £9.95 per item.
(software postage free)

Send off or order by 'phone quoting your Access, Visa No. 'Phone 01-686 6362. Immediate despatch on receipt of order or cheque clearance. Or Telex your order on: 946240 Attn 19001335.

EXPORT CUSTOMERS SUPPLIED TAX FREE.
Contact our specialist export department on 01-686 6362

PHONE FOR NEW CATALOGUE
On Amiga Hardware and Software

ALL PRICES EXCLUDE VAT.

ALSO A VAST RANGE OF DISK DRIVES, JOYSTICKS, DISK BOXES, INTERFACES, SHEETFEEDERS, ETC.

HI VOLTAGE Dept. AUI, 53-59 High Street, Croydon, Surrey CR0 1QD. Fax: 01-681 8939. Tel: 01-681 3022

Prices correct at copy date. Subject to change without notice due to currency fluctuations etc. E. & O.E.

CHARACTER VIEWER

By Mario Abela

C-64/C-128

Have you sometimes admired the fancy character sets used in some commercial programs? Wouldn't it be nice if you could 'capture' them and use them in your own programs? Mario Abela's CHARACTER VIEWER lets you do just that.

LOAD in the game with the characters you wish to examine. Once LOADED and RUN reset the computer using the reset switch. LOAD the 'VIEWER' program into the memory and RUN it with:
SYS 4096

Once RUN a menu will appear on the screen illustrating what the function keys do and at the bottom of the screen the default character set is displayed. The function keys change the display of the character set at the bottom (black window) but do not effect the top (grey window) thanks to RASTER INTERRUPTS.

Also next to the function keys description there is a value displayed in Hex. This is the value stored in that location which effects that change.
F4=$04 means that location 53282 holds 4 in it.

Sometimes when a function key is pressed nothing seems to happen. This is a form of precaution so that the program won't corrupt itself. However, if the key is pressed again you should see the change. This generally happens when F5 is pressed.

Function Key Description

F1 - selects the next BANK of the character set from the 4 available.
F3 - selects the next character set in that BANK from the 8 available.
F5 - selects the next screen address so that it does not corrupt the character set. This option should be hardly used. Avoid pressing it, since it can have disastrous effects if you don't know what it actually does.
F7 - selects between the two modes of character sets.

i. Multi color Character Sets
ii. Hires Character Sets

F2 - Increments by 1 the character color.
F4 - Increments by 1 the Multi Color Register #1.
F6 - Increments by 1 the Multi Color Register #2.
F8 - when this option is selected another screen is entered. The character set which was last displayed before entering the save option screen is saved to either tape or disk at the address 8192 with the filename that was given. After this a reset will take place, however SYS4094 should re-enter the program again.

continued on next page

Program

```
10 REM ***********************************
20 REM *        CHARACTER VIEWER         *
30 REM *         BY MARIO ABELA          *
40 REM *           FROM MALTA            *
50 REM ***********************************
60 POKE44,64:POKE16384,0
70 PRINT CHR$(147)
80 PRINT"NOW LOAD 'VIEWER GEN.'"
90 NEW
100 END
```

```
10 L= 4096
20 FOR X=0 TO  137 :T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT 1000+(X*10)"OK":NEXT
80 PRINT"PRESS ANY KEY TO SAVE VIEWER"
90 GET A$:IF A$=""THEN 90
100 PRINT:PRINT"SAVING"
110 POKE 194,4096/256:POKE 193,4096-PEEK(194)*256
120 POKE 175,6144/256:POKE 174,6144-PEEK(175)*256
130 FI$="VIEWER":REM FILENAME
140 DE=8:REM DEVICE NUMBER
150 L=LEN(FI$):REM LENGHT OF FILENAME
160 FOR I=1 TO L:POKE 1023+I,ASC(MID$(FI$,I,1)):NEXT
170 POKE 187,0:POKE 188,4:POKE 183,L:POKE 186,DE:SYS 62954
180 REM *******************************
190 REM * THANKS TO BERTRAND A MAGRO *
200 REM *       FOR HIS LISTINGS      *
210 REM *******************************
1000 DATA 160,000,169,000,153,000,031,200,192,028,208,246,169,001,141,  162
1010 DATA 013,031,169,003,141,001,031,141,034,208,141,019,031,169,004,  112
1020 DATA 141,002,031,141,010,031,141,035,208,141,020,031,169,016,141,  234
1030 DATA 009,031,141,011,031,169,011,141,033,208,169,012,141,032,208,  067
1040 DATA 169,001,141,134,002,169,147,032,210,255,032,117,023,032,086,  014
1050 DATA 016,032,209,017,032,181,018,076,079,016,096,169,165,133,251,  210
1060 DATA 169,016,133,252,160,000,177,251,201,255,240,062,170,200,152,  134
1070 DATA 072,177,251,168,024,032,240,255,104,168,200,177,251,141,000,  212
1080 DATA 031,024,165,251,105,003,133,251,165,252,105,000,133,252,160,  238
1090 DATA 000,177,251,032,210,255,200,204,000,031,208,245,024,165,251,  205
1100 DATA 109,000,031,133,251,165,252,105,000,133,252,076,094,016,096,  177
1110 DATA 002,002,036,070,049,032,045,032,067,072,065,078,071,069,032,  210
1120 DATA 066,065,078,075,032,032,032,032,032,032,032,032,032,032,032,  124
1130 DATA 032,032,032,032,061,032,036,048,051,004,002,036,070,051,032,  039
1140 DATA 045,032,067,072,065,078,071,069,032,067,072,065,082,065,067,  181
1150 DATA 084,069,082,032,083,069,084,032,032,032,032,032,032,061,032,  020
1160 DATA 036,048,052,006,002,036,070,053,032,045,032,067,072,065,078,  182
1170 DATA 071,069,032,083,067,082,069,069,078,032,032,032,032,032,032,  044
```

MPC SOFTWARE

ADVENTURES

Bards Tale	£ 21
Deja Vu	£ 24
Fairy Tale Adventure	£ 34
Gnome Ranger	£ 19
Guild of Theives	£ 19
Hitchhikers Guide	£ 15
Jinxter	£ 19
Knight Orc	£ 17
Land of Legends	Phone
Leather Goddesses of Phobos	£ 24
Lurking Horror	£ 22
Phantasie III	£ 19
Portal	£ 20
Shadowgate	£ 19
The Pawn	£ 19
Winne The Pooh	£ 19

NEW PRODUCTS

Arm Moves	£ 16
Bad Cat	£ 19
BMX Simulator	Phone
Bubble Bobble	£ 16
Carrier Command	£ 19
Dick Special	£ 19
ECO	£ 16
ECE A500 Midi Interface	£ 55
Elite	Phone
'Ferrari' Formula 1 Racing	£ 24
Football Manager 2	£ 17
Galactic Invasion	£ 20
Gauntlet	Phone
Hot Ball	Phone
King of Chicago	£ 24
Mars Cops	Phone
Mercenary Compendum	£ 19
Ports of Call	£ 33
Predator	£ 19
Road Wars	£ 16
Shakespeare (DTP)	Phone
Star Wars	£ 19
The Living Daylights	Phone
Turbo	Phone
TV Show	£ 90
UMS	£ 19
Witchcraft	£ 35
Wizball	£ 16

10 Unbranded 3.5' Discs £11

in Storage Box £13

BUSINESS SOFTWARE

Aegis Impact (Business Graphics)	£ 60
BBS PC (Set up your own BBS)	£ 80
City Desk (DTP)	£100
Diga (Comms)	£ 60
Financial Cookbook (Home Accounts)	£ 20
Huge Print (Banner Printer)	£ 35
Intro CAD	£ 50
K-Spread 2	£ 70
Maxiplan	£130
Page Setter	£ 90
Professional Page	Phone
Publisher Plus	£ 90
PLCO 1	£300
Ruby-View	£ 90
XCAD	£430

DATABASES

Acquisition	£270
DB Man (DBase III Clone)	Phone
Omega File	£ 50
Softwood File II	£ 80
Superbase Personal	£ 85
Superbase Professional	Phone

WORD PROCESSING

Dynamic Word	Phone
Gold Spell (90 000 word spell checker)	£ 25
Promise (Spell Checker)	Phone
Pro Write	£ 95
Text Craft	£ 30
Text Ed	£ 35
Visa Write	£ 80
Word Perfect	£175
The Works	£125

LEISURE SOFTWARE

Archon 1+2	£ 19
Art of Chess	£ 19
Balance of Power	£ 23
Brian Cloughs Football Fortunes	£ 20
Chessmaster 2000	£ 20
Dark Castle	£ 19
Defender of the Crown	£ 23
Earl Weaver Baseball	£ 22
Flight Simulator II	£ 38
Flight Simulator II (scenary disc 7 or 11)	£ 19
Hollywood Strip Poker	£ 13
Hunt for Red October	£ 19
Kampigruggupe	£ 20
Leaderboard	£ 19
Little Computer People	£ 22
Moebius	£ 19
Shanghai	£ 15
Silent Service	£ 19
Sinbad	£ 23

ARCADE GAMES

Arctic Fox	£ 17
Backlash	£ 16
Barbarian	£ 15
Crazy Cars	£ 19
Firepower	£ 19
Garrison	£ 19
Gold Runner	£ 19
Grand Slam	£ 20
Impact	£ 13
Indoor Sports	£ 19
Insanity Flight	£ 19
Into the Eagles Nest	£ 17
Karate Kid II	£ 18
Leviathan	£ 16
Marble Madness	£ 19
Mindwalker	£ 35
Mission Elevator	£ 19
Obliterator	£ 19
Sky Fox	£ 14
Space Port	£ 19
Space Ranger	£ 8
Starglider	£ 19
Terrorpods	£ 16
Test Drive	£ 19
Winter Games	£ 19
Xenon	£ 16

Special Offers

Arena & Bratoccus	£ 18
Deep Space	£ 17
Most Infocom Games	£ 15
Hollywood Strip Poker	£ 13
3 Activision Games	£ 30
Tass Times in Tone Town	£ 14
Kings Quest 3	£ 10

Lots of Software at upto 60% off
Phone for list

PROGRAMMING LANGUAGES & UTILITIES

Aztec C Developer Version	£250
CLImate	£ 32
DevPac Amiga	£ 45
FACC 2	£ 30
K-SEKA	£ 45
Lattice C V4.0	£160
Marauder 2 (Copier)	£ 30
Metacomco Macro Assembler	£ 50
Metacomco Pascal	£ 70
Metacomco Shell	£ 35
Metacomco Toolkit	£ 40
Mirror (Copier)	£ 30
Mirror Hacker Pack	£ 40
Project D	£ 30
Zing	£ 60

SOUND & GRAPHICS

Aegis Animator + Images	£ 95
Aegis Audio Master	£ 40
Aegis Images	£ 33
Aegis Sonix	£ 50
Animate Apprentice	£140
Animate Junior	£ 50
Animate 3D	£100
Butcher 2 PAL Version	£ 23
Calligrapher (Colour Fonts)	£ 60
Deluxe Paint	£ 37
Deluxe Paint II	£ 60
Deluxe Print	£ 24
Deluxe Music	£ 60
Director	£ 60
Drum Studio	£ 35
Dynamin Drums	£ 60
Forms in Flight	£ 65
Grabbit	£ 29
Instant Music	£ 24
Interface	£ 45
Music Mouse	£ 40
Music Studio	£ 25
Pixmate	£ 40
Sculpt 3D	£ 80
Silver	£125
Soundscape pro MIDI Studio	£145
Synthia	£ 70
TV* Text	£ 90
Videoscape 3D	£125
Video Titler	£ 62

BOOKS

Advanced Amiga Basic	£ 17
AmigaDos Manual	£ 23
Amgia Graphics, Soung & Telecom.	£ 17
Amiga Programmers Guide	£ 15
Amiga Programmers Handbook Vol 2	£ 24
Big Red Book of C	£ 7
Complete Forth	£ 7
C Programming Language (K&R)	£ 23
Flight Simulator Co-Pilot	£ 8
Hardware Reference Manual	£ 23
Inside Amiga Graphics	£ 16
Inside The Amiga with C	£ 19
Intuition Reference Manual	£ 23
Kickstart Guide	£ 12
Programmers Guide to the Amiga	£ 24
ROM Kernal: Exec	£ 23
ROM Kernal: Libraries & devices	£ 33
The Amiga System: An Introduction	£ 8
The Amiga Handbook (Precision)	£ 15
The Amiga Handbook (Sunshine)	£ 8
68000 Users Guide	£ 8

Phone for details of other books

HARDWARE

Amiga A500	Phone
Amiga A2000	Phone
Cumana 3.5" DISC Drive	£ 130
Digi-View 2.0	£ 170
Lockable 80 Disc Storage Box	£ 16
Mouse Mat	£ 6
Citizen 120D Printer & Lead	£ 200
Citizen LSP100 printer & Lead	£ 240
Amiga Printer Lead (State model)	£ 20
Xerox 4020 Colour Printer	£1300
Soundscape Midi Interface	£ 50
A500 Genlok	£ 270
A1000 Genlok	£ 430
A2000 Internal Disc Drive	£ 130
A2000 512K Upgrade Kit	£ 65

Hard Disc Interface	£110
20 MEGABYTE Hard Disc	£740
STARBOARD OMB	£320
STARBOARD 512K	£360
STARBOARD 1MB	£400
STARBOARD 2MB	£540
STARBOARD Multi Function Module	£ 90
Spirit Memory Board	Phone

Perfect Sound Stereo Digitizer

A500/A2000 Version now in stock

All Versions only £70

Digiview 2 PAL Version now in stock

£170

A500/A2000 Adaptor

£20

Project D Disc Copier

The most versatile disc copier on the Amiga, Project D can copy not only the Amiga disc format but also ST (better than pro-copy), IBM and Xenix format discs only £30

Starboard 2 – probably the best memory upgrade for the Amiga series

Why do we think the starboard is the best memory Amiga? Well, firstly you can use it on all 3 models of the Amgia. (There is an A500 and an A1000 version of the Starboard and you can get an A2000 adaptor for either version if you upgrade). You can have versions with OK 512K IMB or 2MB RAM, and each version is upgradeable so you can use your own RAM chips if you like. There is also the option to use a 68881 maths co-processor, partly checked RAM, 'Slicky' RAM-Disc and onboard clock and there is also a hard disc controller to fit inside the Starboard at under £100 due out soon. You can also have upto 4 Starboards connected together to make up to 9MB Total RAM.
This is just a brief description of what the Startboard can do, phone or write for more details and pricing.

Spirit Internal Memory Upgrade

The Spirit memory upgrade fits inside an A500 (can be used with A501) or A1000 and allows you to add 512K IMB or 15MB to your computer. The A1000 version also includes a clock and this is an option on the A500 version. The Spirit leaves your bus-port free and can also be used with Add on peripherals. Phone or write for more details and pricing!

All Prices include VAT & Delivery to UK

Personal Callers

The Nottingham 68000 Centre

Welbeck House (69 Loughborough Road)
West Bridgford,
Nottingham
(Mon-Fri: 12-5.30, other times by appointment)

Mail Order Address

MPC Software

72, Julian Road,
West Bridgford
Nottingham NG2 5AN
Tel: (0602) 820106/455114

LAN COMPUTER SYSTEMS LTD

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

UK's NUMBER ONE AMIGA CENTRE, WITH OVER ONE THOUSAND AMIGAS SOLD,

PHONE THE EXPERTS ON 01-597 8851

A500 SERIES

All Amiga Systems supplied with twenty LAN selection titles free of charge. Titles include graphics demonstration, games and a range of utilities with spelling checkers, file and directory handling routines.

SYSTEM ONE

Amiga A500 computer, Deluxe Paint, Tutorial Disk, Workbench, Amiga Basic and Demonstration Disk **£339.00**

SYSTEM TWO

Selection of three titles from: Football, Golf, Baseball, Kings Quest, Hollywood Poker, Pacboy, Demolition, Phalamax, Cruncher Factory, Challenger, Dr Fruit, Ninja Mission, Feud, Space Ranger, Kwasimodo, Rocky, Jigsawmania, Brainstorm **£359.00**

SYSTEM THREE

As per System Two with higher resolution colour monitor **£539.00**

LAN PACKAGE OFFER

A500 Computer, 1084 High Resolution Monitor, Dot Matrix Printer, 120 CPS Draft. The Works including Wordprocessor Scribble 2.0, Spreadsheet Analyse 2.0, Database Organise, Transformer PC Emulator. Allows PC Software to run on your Amiga.
All for an incredible **£699.00 + VAT**

STAR BUYS

PRINTER

DOT MATRIX 120

CPS **£129 + VAT**

STAR LC10 DOT MATRIX

The latest release from Star LC10 colour
£199.00 **£169.00**

MONITOR

PHILIPS 8833

Medium resolution colour monitor with stereo sound. Includes FREE monitor cable. **£219+VAT**

COMMODORE 1084

High resolution colour, including free cable **£199.00**

DISC DRIVE

LAN 354 Disk Drive

A beautifully designed external drive for your Amiga at a most attractive price, with the quiet NEC mechanism **£89.00**

LAN 5¼in Disk Drive **£199.00**

APPLICATIONS SOFTWARE

THE WORKS	**£149.00**	**£89.00**
AEGIS SONIX	**£49.95**	**£44.95**
Aegis Images	£34.95	
Aegis Video/Titler	£99.95	**£89.95**
Aegis Animator & Images	£99.95	**£79.95**
Aegis Diga Comms S/Ware	£59.95	**£44.95**
Aegis Videoscape 3D	£149.95	**£114.95**
Deluxe Music	£69.95	**£44.95**
Deluxe Paint II	£69.95	
Deluxe Video	£69.95	
TV TEXT	**£99.95**	**£89.95**
MCC Macro Assembler	£69.95	**£48.95**
MCC Pascal	£89.95	**£62.96**
MCC Shell	£49.95	**£39.96**
MCC Toolkit	£39.95	**£27.96**
MCC Cambridge Lisp	£149.95	**£104.96**
Modular 2 STD	£99.95	**£69.96**
Modular 2 Dev	£149.95	**£104.96**
THE WORKS	**£149.95**	**£89.00**
TRANSFORMER	**£89.00**	**£69.00**
Superbase Personal	£99.95	**£69.96**
Lattic C V4.0	£189.95	**£132.96**

ACCESSORIES TOP TEN

Box of 2000 sheets of paper	**£19.95**
Printer stand	**£14.95**
Amiga joystick	**£9.95**
Custom monitor stand	**£19.95**
Peripheral Interchange Adaptor Unit	**£24.95**
Disc box with 20 D.S. 135 TPI 3.5in disks in lockable storage box	**£39.95**
Dust cover for A500	**£7.95**
Storage box — capacity for discs	**£14.95**
Disc box with 50 96 TPI 5.25in disc in lockable storage box	**£29.95**
Amiga printer cable	**£14.95**
Head cleaner 3½in	**£9.95**

NEW RELEASES

Time Bandits	£19.95	**£13.95**
PORTS OF CALL	**£49.95**	**£34.95**
Gridiron	£24.95	£17.45
Xenon	£19.95	£13.95
Shadow Gate	£29.95	£20.95
Mercenary	£24.95	**£17.45**
Las Vegas	£9.95	£9.95
Eagles Nest	£19.95	**£13.95**
Plundered Hearts	£34.95	**£24.45**
GOLDEN PATH	**£19.95**	**£13.95**

AMIGA BOOKS

3645 Amiga GD Graphics-Sound-Teleco, Bantam Books In	**£17.45**
2865 Advanced Amiga BASIC, Compute!	**£16.95**
2754 Amiga Applications, Compute!	**£16.95**
3646 Amiga DOS Manual, Bantam Books In	**£22.95**
2747 Amiga Dos Ref Guide, Compute!	**£12.95**
3293 Amiga Handbook, Precision Software	**£15.95**
1996 Amiga Hardware Ref. Manual, Addison-Wesley	**£23.70**
1995 Amiga Intuition Ref. Manual, Addison-Wesley	**£23.70**
3815 Amiga Microsoft BASIC Prog Guide Scott Foresman	**£18.45**
2755 Amiga Programmers Guide, Compute!	**£16.95**
2744 Amiga Programming Guide, QUE	**£16.45**
2536 Amiga Progs Handbook Vol. 2, Sybex	**£24.95**
2001 Amiga ROM Kernel Ref Man Exec, Addison-Wesley	**£23.70**
2000 Amiga ROM Kernel Ref Man Lib, Addison-Wesley	**£33.20**
2898 Amiga System & Introduction, Precision Software	**£9.95**
3727 Becoming an Amiga Artist, Scott Foresman	**£18.45**
2756 Beginners Guide to the Amiga, Compute!	**£16.95**
2757 Elementary Amiga Basic, Compute!	**£14.95**
2752 Inside Amiga Graphics, Compute!	**£16.95**
3031 Inside the Amiga with C, Sams	**£19.95**
3936 Kickstart Guide to the Amiga, Ariadne Software	**£12.95**
3310 Programmers Guide to the Amiga, Sybex	**£24.95**
2717 The Amiga	**£16.95**
1738 The Amiga Handbook, Scott Press	**£7.95**

TOP TEN LEISURE TITLES

Test Drive	£24.95	**£17.45**
Garrison	£24.95	**£17.45**
Roadwars	**£19.95**	**£13.95**
Flight Simulator	£49.95	**£34.95**
Dark Castle	£24.95	**£17.45**
Moebius	**£24.95**	**£17.45**
Defender of the Crown	£29.95	**£20.95**
Instant Music	**£24.95**	**£17.45**
Faerytale Adventure	£49.95	**£34.95**
Shadowgate	£29.95	**£20.95**

ORDER INFORMATION

HOW TO ORDER
Enclose letter with cheque, postal order or credit card number for total amount including VAT and delivery charge outside UK.
Credit card holders may order by telephone.
Dispatch normally in 24 hrs. Contact Sales Desk.
Official orders from Educational Establishments, Local Authorities and Government departments welcome. Contact Educ. Dept.
EXPORT HOT LINE 01-597 8854. TELEX 995548.
Dealer and Export Enquiries Contact Trade Dept.
Prices exclusive of VAT unless otherwise stated and correct at time of going to press.
Education callers ask for
Tony Judge or Mike Brown
PLEASE STATE ADVERT REFERENCE CCI

EXPORT CUSTOMERS
Please add £2.00 to cover postage and packing on Leisure and Applications Software.
HARDWARE ORDERS. Supplied tax free. Please add £30.00 to cover air freight costs on all systems and hardware.
ACCESS, VISA, EUROCHEQUES ACCEPTED.
BFPO customers free delivery and tax free!

1063 HIGH ROAD, ROMFORD, ESSEX RM6 4AL

Contact Sales on 01-597 8851

COMMODORE MAGENTA PAGES

AMIGA STEREO SOUND DIGITIZER

A high quality two channel sound digitizer that will truly amaze you! Fitted with both line and mic inputs and level controls. Works with currently available parallel port mono or stereo sampling software*

Stereo digitizer (state A500/1000/2000) £59.95 plus £2.50 carriage

*Aegis Audio Master (mono). Perfect Sound (stereo).

TV MODULATOR SHIFTER for A500. A short extension cable that allows you to move that awkward TV modulator out of the way. Complete with audio cable extension. **£9.50 inc. p&p.**

JOYSTICK/MOUSE PORT EXTENDER for A500. Bring the ports to the front of the Amiga for easy access. Sockets can be mounted to work station. **£14.95 inc. p&p.**

PRINTER PORT ADAPTER. Use your A500 Digitizer/printer on an A1000 or visa-versa. Please state Amiga model. **£9.95 inc. p&p.**

PRINTER PORT EXTENDER. Connect and use a second device, no need to keep removing your printer. (State A500/2000 or A1000). **£12.50 inc. p&p.**

CBM 64/128 — TAPE BACK-UP BOARDS — CBM 64/128

The Mk. 1 Uses a second CBM type cassette deck to copy a program as it loads. Very easy to use. The original Board, beware imitations! **£8.95 inc. p&p.**

NEW IMPROVED Mk. 2. Has a built in speaker so you can hear your copy being made. Work like the Mk. 1 or an be switched to use your 'GENERATOR' software method. **£14.00 inc. p&p.**

ROM SWITCH/RESET BOARD. Resets all programs that a standard switch can't. Also has a socket for an 8K Eprom. Full instructions supplied. **£8.00 inc. p&p.**

All products Guaranteed 12 months. Send cheque/PO or stamp for more details to:

TURBOTRONIC
46 Ripon Street, Parkinson Lane, Halifax, West Yorkshire HX1 3UG.
Tel: (0422) 52020

OFFICIAL COMMODORE/AMIGA DEALER

COMPUTERS	
Amiga 2000 System Unit	£929.00
Amiga 2000 + 1084 Colour Mon.	£1189.00
Amiga 2088 PC/XT Bridgeboard + 5.25in Disk Drive	£458.85
Amiga 2052 2Mb Ram Card	£378.35
Amiga 500 + dPaint + MORE!	£459.00
Amiga 500 + Philips 8833 Stereo Colour Mon.	£699.00
Commodore 128/C2N/3 Tapes/Joystick/Games	£219.00
Commodore 64/C2N/3 Tapes/Joystick/Sports Bag/Game	£159.00
PRINTERS	
OKIMATE 20 TEXT & MULTI-COLOUR GRAPHICS FOR AMIGA	**£199.00**
Star LC10 Parallel 120/30cps	£199.00
Star LC10 C64/128 120/30cps incl lead	£199.00
Star LC10 Parallel COLOUR	PHONE
Star LC10 C64/128 COLOUR incl lead	PHONE
Citizen 120D Parallel 120/25cps	£165.00
Citizen 120D C64/128 120/25cps incl lead	£165.00
MONITORS	
Commodore 1802 Col. Mon. for C64	£189.00
Philips 8833 Stereo Col. Mon.	£249.00
Philips BM7502 Green Mon. incl. lead	£82.00
Philips BM7522 Amber Mon. incl. lead	£94.00
MISCELLANEOUS	
Amiga 520 TV Modulator	£24.99
Amiga 501 512K RAM Expansion + Clock	£99.95
Commodore 1541C Disk Drive + Software	£159.00
Commodore 1571 Disk Drive	£189.00
Commodore 1581 3.5in Disk Drive	£189.00
Commodore C2N Data Recorder	£29.95
Cumana CAX354 Amiga Disk Drive	£129.00
Power Supply for C64	£26.45
Super-G Cent Interf. + Graphics	£34.95
Surge Protector 4 x 13A Distrib Block	£18.95
Amiga DOS Ref Manual (2nd Ed) (p&p £2)	£22.95
C128 Official Prog's Ref. Guide (p&p £2)	£18.95
Addison-Wesley Amiga Ref. Manuals	PHONE
SOFTWARE (Examples)	
Amiga Scribble 2	£79.00
Amiga The Works! (Scribble + Analyze + Organise)	£139.00
Amiga Superbase	£86.95
Amiga DigiView	£153.00
Superbase 128 Programable Database	£29.95
Superscript 128 Word Processor	£29.95
Tasword 64 40/80 Col. WP — Tape/Disk	£17.95/£19.95
Vizawrite with Spelling Checker	£59.95

Delta Pi Software Ltd
8 Ruswarp Lane, WHITBY, N. Yorks. YO2 1ND.
Tel: 0947 600065 (9am-7pm)

TRIANGLE TELEVISION

THE AMIGA SPECIALIST

- *FOR ALL YOUR VIDEO AND AUDIO VISUAL REQUIREMENTS*
- *A500 AND A2000*
- *FULL RANGE OF PERIPHERALS*
- *FULL RANGE OF SOFTWARE*
- *RGB CONVERTERS*
- *TRAINING COURSES*

Phone for details

TRIANGLE TELEVISION
130 BROOKWOOD ROAD
LONDON SW18 5BB
Tel: 01-874 3418

TO SET THE PACE FILL THIS SPACE! CALL 01-278 0333 EXT 280 NOW!

HEATH COMPUTERS

SPARES AND REPAIRS — WE FIX MOST MAKES OF COMPUTERS

SPARES		REPAIRS	
CBM64 PSU	£22.00	CBM 64	FROM £25.00
6569	£17.50	CBM 16	FROM £25.00
6581	£10.00	CBM +4	FROM £25.00
8501	£10.00	CBM 128	FROM £30.00
6561	£10.00	BBC	FROM £30.00
6510	£10.00	ELECTRON	FROM £30.00
6526	£10.00	CASSETTE	FROM £10.00
KERNAL ROM	£10.00	1541	FROM £25.00
BASIC ROM	£10.00	CBM PRINTERS	FROM £25.00
PLA	£12.00		

HEATH COMPUTERS & ELECTRONICS LTD
PLEASE ADD VAT TO ALL PRICES
TEL: (021) 771 3636 (BIRMINGHAM)

Mega-Mag-Disk

THE MAGAZINE ON A DISK FOR THE AMIGA

Disk includes Sauna, Music, Graphics, Hints and Tips, Comic Strip and much, much more

£5.00 inc. P&P

Cheques and Postal Orders to:
Mega-Mag-Disk, Thornwood, Valley Rd., Tasburgh, Norwich, Norfolk NR15 1NG.
Call (0508) 470936 24 hrs.
Send S.A.E. for information

FORTH AND LISP FOR THE C64 AND C128

These languages are available as 16K ROM Cartridges
S-forth £24 90 S-lisp £32 90
LETCHWORTH SOFTWARE
45 Swift Close, Letchworth, Herts
SG6 4LL Tel (0462) 675305

AMIGA OWNERS

For details of discounted software, blank disks, accessories and library facilities,

Send S.A.E. to

DEPT CCI

The Software Club
26 BEECHLEY DRIVE
CARDIFF CF5 3SN

COMMODORE 128 USER WITH NO SOFTWARE TO USE?

Scratch Software Club offers everything you need to use your 128 to its full potential. We have a software database on all 128 software. Detailed information and programs for the Commodore 128, Newsletters and Quarterly Journals.
Want to know more? Write to:

Brampton, Croome Road, Defford, Worcester WR8 9AR

COMMODORE MAGENTA PAGES

budgetsoft

This is just a small selection from our stock's. For list please send s.a.e.

Titles shown are for comm. 64 We also have Amiga, Vic 20, Plus 4/C16

£1 95
EVERYONES A WALLY
HERBERTS DUMMY RUN
BIOLOGY
GEOGRAPHY
HISTORY
GERMAN
HARD HAT MAC
CASTLE OF DREAMS
JOHNNY REB II
SCHIZOFRENIA
DREBLS
SUPERBASIC 64
TOAD FORCE
CLEAN UP TIME
BMX RACERS
FA CUP FOOTBALL 87
YABBA DABBA DOO
RED HAWK
FORECASTER
PROJECT PLANNER
NUMBERS AT WORK
DECISION MAKER
ENTREPRENEUR
FORECASTER(DISC)
PROJECT PLANNER(DISC)
NUMBERS AT WORK(DISC)
DECISION MAKER(DISC)
RALLY DRIVER

£2 95
MAX HEADROOM
VALKYRIE 17
CHOPLIFTER
TURBO 64
PILOT 64
SUPERMAN
JET SET WILLIE
NEXUS
EVIL CROWN
CHUCKIE EGG
KETTLE
BOUNDER
PRODIGY
EXPLORER
TRANSFORMERS
PUB GAMES
GREYFELL
DOGFIGHT 2187
GOLF CONSTRUCTIO
WERNER
CHAMELEON
THEY STOLE A MILLIC
NOW GAMES 1
FOOTBALL MANAGER
SUPER SUNDAY
HEADCOACH
PRESIDENT

£3 95
AUF WIEDE. MONTY
GOLDEN OLDIES
INHERITANCE
THE SYDNEY AFFAIR
KAT TRAP
XEVIOUS
JACK THE NIPPER
BEACH HEAD
FRIDAY THE 13th
THE FORCE
MANDRAGORE
MIND SHADOW
LITTLE COMP. PEOPLE
VALHALLA
IMHOTEP
MURDER ON ZINDERNAU
ARCADE EXTRA. DISC
DEADLINE (DISC)
FANTASY FIVE (DISC)
RAIL BOSS (DISC)
SUSPENDED (DISC)
ZORK 2 (DISC)
ZORK 3 (DISC)
THE YOUNG ONES
TOUCHDOWN FOOTBALL
MICRO VALUE(4 GAMES)
JET SET WILLY 2

KINGSIZE (DISC)
GAME KILLER
KING SIZE 128K DISC
NEMESIS
MICRO VALUE 2(4 GAMES
JAIL BREAK
NOW GAMES 4

£4 95
SCOOBY DOO
STARQUAKE(DISC)
SKATE ROCK(DISC)
SLAP FLIGHT
"V"
GALVAN
HEAD OVER HEELS
ALIEN
ZAXXON
MULE
SPACE SHUTTLE
SUPER ZAXXON (DISC)
SCREENPLAY
IRIDIS OC (DISC)
DANDY (DISC)
TASS TIMES (DISC)
VIKINGS (DISC)
ACE
SCOPE 64

HERO
PITFALL
BLADE RUNNER
QBERT
DONKEY KONG
DIG DUG
LOCOMOTION
HI FLYER (DISC)
KENSINGTON
SPIRIT OF STONES (DISC
FROGGER (DISC)
LAPIS PHILOS.(DISK)
ROBOTRON
MANDRAGORE
MIND SHADOW (DISC)
LITTLECOMP.PEOPLE(DI
BEAM RIDER (DISC)
HERO (DISC)
TOY BIZARRE (DISC)
ZENJI (DISC)
ROCK'N'BOLT (DISC)
WEB DIMENSION (DISC)
WILD WEST (DISC)
BUG BLITZ (DISC)
SAUCER ATTACK (DISC)
MURDER ON ZINDERNEUF

£5 95
ZORRO

£9 95
SKYFOX (DISK)
TOUCHDOWN FOOTBALL
RACING DESTRUCTION
MUSIC CONSTRUCTION
ADVENTURE CONST.
MAIL ORDER MONSTER
MUSIC CONSTRUL.SET
KORONIS RIFT
THE EIDOLON
THE GREAT US ROAD RAC
KORONIS RIFT (DISC)
TRANSFORMERS(DISC)
ALTER EGO FEMALE(DISC
ROCK'N'RHYTHM
ARCHON 2 (DISC)
FAHRENHEIT 451(DISC)
ROBOT RASCALS(DISK)
ARTIC FOX(DISK)
FUTURE FINANCE (DISC)
GRAPHICS BASIC (DISC)
AMAZON (DISC)
BELOW THE ROOT
ALICE IN WONDERLAND
BRENDAN'S BASIC
WARRIOR II(DISC)
ASSAULT MACHINE (DISC
SWISS F. ROBINSON (DISC
SCARABEUS
SPY Vs SPY
ONE ON ONE(DISK)
SKYFOX
ARCHON 2
KAISER (DISC)
MULE (DISC)

Post and packing: 1-3 titles 75p, 4 or more £1. Overseas £1.30 per title.
PERIPHERALS: £1 per item. Overseas £1.80
Please send cheques/P.O.'s to: Budgetsoft, Dept C1, 33 Little Breach, Chichester, W.Sussex, PO19 4TY.

AT LAST

COMMODORE SPARES

AT DISCOUNT PRICES

CIA 6526	£11.95	ROM 901227-03	£14.99
MPU 6510	£11.99	ROM 901225-01	£9.99
PLA 906114-01	£9.99	SOUND 6581	£14.99
ROM 901226-01	£9.99	RAM 4164	£2.49

All prices include post & packing, handling and VAT — send your faulty computer and P.S.U. for estimate and repair from £9.99 + parts + VAT. Spare also available for Vic 20, C16 +4, 64C, C128, Spectrum, +, 128, +2 an Amstrad computers.
SEND CHEQUE/P.O. ACCESS/VISA CARDS WELCOME

ELECTRONIC SERVICES

176 VICTORIA ROAD WEST, CLEVELEYS, BLACKPOOL FY5 3NE. Tel: (0253) 822708

Send large SEA for full list of printers, modems, computers, spares and accessories at discount prices.

COMMODORE 64/128 SOFTWARE LIBRARY

- ★ *Free Membership*
- ★ *Tapes from 75p to £1.50*
- ★ Regular update of new games
- ★ *All originals*
- ★ *Disc £2*
- ★ *7 days hire*

Send now for free catalogue

Now on Atari ST

B.J.L. SOFTWARE LIBRARY
16 Sarum Avenue, Melksham, Wilts SN12 6BN

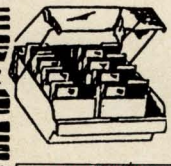
SPEEDY DESPATCH

VISA

FREE

HIGH QUALITY
JAPANESE HIGRADE
5.25" DS/DD disks

Large storage case totally FREE with the following quantities of high quality Japanese disks



Deluxe 120 disk capacity lockable disk box worth over £14 (Please state if you want the 140 capacity box instead)

25 disks	£18.75	All inclusive of Post & VAT
50	£28.95	
100	£49.95	
150	£73.95	
250	£119.95	

CATALOGUE! Send 50p (or 30p with order). Refundable.

Nebulae, Dept MC, FREEPOST, Kilroot Park Industrial Estate, Carrickfergus, Co Antrim, BT38 7BR TEL (09603) 31020 (Monday to Friday 9 to 5)

ORDER BY PHONE FOR SAME DAY DESPATCH

7 Day Delivery & 14 day money back period

We accept orders from all government bodies, schools, universities, PLC's etc.
We despatch on receipt of an official purchase order.

Tel: (09603) 51020

FREEPOST YOUR ORDER TODAY — NO STAMP REQUIRED

ROCK BOTTOM DISKS

All disks supplied with labels and (5¼ also with sleeves)

Lifetime Guarantee

	10	30	50	100	200	500+
	Plain Label					
5¼in DS/DD 48 tpi	7.70	13.80	21.00	39.00	77.00	Call
5¼in DS/DD 96 tpi	6.50	14.30	22.50	40.50	79.00	Call
	Plain Label					
3.5in SS/DD 135 tpi	10.95	31.40	49.90	94.30	177.68	Call
3.5in DS/DD 135 tpi	11.25	32.00	52.90	100.00	189.18	Call

Disk Box for 10 £1.30

Branded Warbash Datatech 3.5in DS/DD £15.00 box of 10
Branded Sony 3.5in DS/DD £19.95 pack of 10

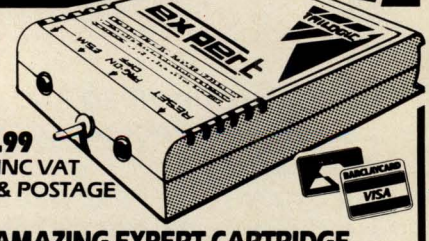
No quibble 14 day money back guarantee and lifetime guarantee
ALL PRICES INCLUDE VAT & p.&p. (UK Only)
Official Govt/Educational/Company/Export & Credit Card Orders Welcome
CREDIT CARD HOTLINE: 0329 282083

Cheques/P.O. to:

ATHENE CONSULTANTS
33 Holly Grove, Fareham, Hants. PO16 7UP. Tel: 0329 282083

BACK UP! TRANSFER! CONVERT! ANY PROGRAM

TAPE TO DISK
DISK TO DISK
DISK TO TAPE
TAPE TO TAPE



FOR ONLY **£29.99** INC VAT & POSTAGE

VISA

WITH THE AMAZING EXPERT CARTRIDGE
NOW INCLUDING THE LATEST V.3 UPGRADE

- THE ONLY USER PROGRAMMABLE BACK-UP & UTILITY FOR 64/128 (64 MODE).
- EASY & CHEAP TO UPGRADE - JUST £3.50 FOR UPGRADE SOFTWARE ON DISK OR TAPE.
- FULL 64K M/CODE MONITOR.
- SCREEN & PICTURE PRINTER DUMPS.
- SPRITE EXTRACTOR & EDITOR.
- SAVES PROGRAMS IN ONE FILE (EXCL. MULTIPART ONES).
- SUPER EFFICIENT COMPACTOR - SAVE 3 OR MORE PROGRAMS PER DISK.
- TURBO RELOADER & DECOMPACTOR - RELOADS & RESTARTS PROGRAMS IN SECONDS.
- EXPERT NOT NEEDED FOR LOADING BACK.
- JOIN THE INTERNATIONAL EXPERT USER CLUB.

PLEASE STATE DISK OR TAPE SOFTWARE WHEN ORDERING.

TRILOGIC
Trilogic Dept. CC1, Unit 1,
253 New Works Road
Bradford, BD12 0QP. Tel. 0274 691115

FAST MAIL ORDER SERVICE · PROMPT DESPATCH · ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK GUARANTEE ON ALL ITEMS. PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC BY POSTAL ORDER, ACCESS OR VISA. ADD £1 EXTRA FOR EXPORT ORDERS, PAYMENT IN STERLING ONLY PLEASE.

```
1180 DATA 032,032,032,032,032,032,032,061,032,036,049,048,008,002,036,  240
1190 DATA 070,055,032,045,032,083,087,073,084,067,072,032,077,085,076,  202
1200 DATA 084,073,032,067,079,076,079,082,032,079,078,047,079,070,070,  003
1210 DATA 032,061,032,079,070,070,010,002,036,070,050,032,045,032,073,  182
1220 DATA 078,067,082,069,077,069,078,084,032,067,072,065,082,065,067,  030
1230 DATA 084,069,082,032,067,079,076,079,082,032,061,032,036,048,049,  140
1240 DATA 012,002,036,070,052,032,045,032,073,078,067,082,069,077,069,  028
1250 DATA 078,084,032,077,085,076,084,073,032,067,079,076,079,082,032,  012
1260 DATA 035,049,032,032,061,032,036,048,051,014,002,036,070,054,032,  072
1270 DATA 045,032,073,078,067,082,069,077,069,078,084,032,077,085,076,  000
1280 DATA 084,073,032,067,079,076,079,082,032,035,050,032,032,061,032,  078
1290 DATA 036,048,052,016,002,023,070,056,032,045,032,083,065,086,069,  203
1300 DATA 032,067,072,065,082,065,067,084,069,082,032,083,069,084,255,  184
1310 DATA 120,173,014,220,041,254,141,014,220,173,017,208,041,127,141,  112
1320 DATA 017,208,169,189,141,018,208,169,251,141,020,003,169,017,141,  069
1330 DATA 021,003,173,026,208,009,001,141,026,208,088,096,169,001,044,  190
1340 DATA 025,208,208,004,076,049,234,096,173,033,208,041,015,201,011,  046
1350 DATA 208,080,169,000,141,033,208,165,001,041,254,133,001,173,000,  071
1360 DATA 221,041,252,013,001,031,141,000,221,173,024,208,041,015,013,  115
1370 DATA 009,031,141,024,208,173,010,031,141,136,002,173,024,208,041,  072
1380 DATA 240,013,002,031,141,024,208,173,022,208,041,239,013,012,031,  118
1390 DATA 141,022,208,032,169,018,169,000,141,018,208,173,025,208,009,  005
1400 DATA 001,141,025,208,076,165,018,169,011,141,033,208,165,001,009,  091
1410 DATA 255,133,001,173,000,221,041,252,009,003,141,000,221,173,024,  111
1420 DATA 208,041,015,009,016,141,024,208,169,004,141,136,002,173,024,  031
1430 DATA 208,041,240,009,004,141,024,208,173,022,208,041,239,141,022,  185
1440 DATA 208,032,167,023,169,189,141,018,208,173,025,208,009,001,141,  176
1450 DATA 025,208,076,049,234,096,032,074,019,160,000,152,145,251,200,  185
1460 DATA 208,250,096,032,228,255,201,000,208,001,096,201,133,208,010,  079
1470 DATA 032,192,019,032,255,020,032,189,020,096,201,134,208,010,032,  192
1480 DATA 228,019,032,016,021,032,189,020,096,201,135,208,010,032,240,  199
1490 DATA 019,032,033,021,032,189,020,096,201,136,208,013,032,040,020,  068
1500 DATA 032,050,021,032,089,021,032,189,020,096,201,137,208,010,032,  146
1510 DATA 061,020,032,089,021,032,189,020,096,201,138,208,010,032,091,  216
1520 DATA 020,032,106,021,032,189,020,096,201,139,208,010,032,103,020,  205
1530 DATA 032,123,021,032,189,020,096,201,140,208,035,032,140,021,032,  042
1540 DATA 115,020,032,181,022,173,001,031,201,003,208,007,173,002,031,  176
1550 DATA 201,008,240,003,032,019,023,032,177,021,032,071,023,032,226,  116
1560 DATA 252,096,169,000,141,003,031,141,004,031,141,007,031,141,008,  172
1570 DATA 031,173,001,031,073,003,240,021,168,024,173,003,031,105,000,  053
1580 DATA 141,003,031,173,004,031,105,064,141,004,031,136,208,236,173,  201
1590 DATA 009,031,141,005,031,169,000,141,006,031,024,160,006,014,005,  005
1600 DATA 031,046,006,031,136,208,247,024,173,003,031,109,005,031,141,  198
1610 DATA 007,031,173,004,031,109,006,031,141,008,031,024,173,007,031,  039
1620 DATA 105,208,133,251,173,008,031,105,002,133,252,024,160,008,078,  135
1630 DATA 008,031,110,007,031,136,208,247,173,007,031,141,010,031,096,  243
1640 DATA 173,009,031,240,013,173,001,031,240,009,056,233,001,240,010,  180
1650 DATA 141,001,031,096,169,003,141,001,031,096,172,009,031,192,016,  106
1660 DATA 208,242,141,001,031,096,024,173,002,031,105,002,041,015,141,  229
1670 DATA 002,031,096,173,001,031,240,042,024,173,011,031,105,016,141,  093
1680 DATA 011,031,240,020,201,064,240,016,201,080,240,012,201,096,240,  101
1690 DATA 008,201,112,240,004,141,009,031,096,174,001,031,224,003,240,  235
1700 DATA 003,141,009,031,096,169,016,141,014,031,141,009,031,096,173,  077
1710 DATA 012,031,073,016,141,012,031,041,016,208,001,096,169,008,141,  228
1720 DATA 013,031,076,072,020,024,173,013,031,105,001,041,015,141,013,  001
1730 DATA 031,169,208,133,253,169,218,133,254,160,000,173,013,031,145,  042
1740 DATA 253,200,208,251,096,238,034,208,173,034,208,041,015,141,019,  071
1750 DATA 031,096,238,035,208,173,035,208,041,015,141,020,031,096,169,  001
1760 DATA 147,032,210,255,169,011,141,033,208,165,001,009,255,133,001,  234
1770 DATA 173,000,221,041,252,009,003,141,000,221,173,024,208,041,015,  242
```

Program

```
1780 DATA 009,016,141,024,208,169,004,141,136,002,173,024,208,041,240, 000
1790 DATA 009,004,141,024,208,173,022,208,041,239,141,022,208,169,001, 074
1800 DATA 133,198,169,127,141,138,002,169,147,032,210,255,096,173,014, 212
1810 DATA 031,041,240,074,074,074,074,141,018,031,173,014,031,041,015, 048
1820 DATA 141,017,031,173,015,031,133,253,173,016,031,133,254,160,000, 025
1830 DATA 174,018,031,189,239,020,145,253,200,174,017,031,189,239,020, 147
1840 DATA 145,253,096,048,049,050,051,052,053,054,055,056,057,001,002, 254
1850 DATA 003,004,005,006,173,001,031,141,014,031,169,116,141,015,031, 113
1860 DATA 169,004,141,016,031,096,173,002,031,141,014,031,169,196,141, 075
1870 DATA 015,031,169,004,141,016,031,096,173,009,031,141,014,031,169, 047
1880 DATA 020,141,015,031,169,005,141,016,031,096,169,099,133,251,169, 206
1890 DATA 005,133,252,162,000,173,012,031,041,016,208,002,162,003,160, 080
1900 DATA 000,189,083,021,145,251,232,200,192,003,208,245,096,015,014, 102
1910 DATA 032,015,006,006,173,013,031,141,014,031,169,180,141,015,031, 230
1920 DATA 169,005,141,016,031,096,173,019,031,141,014,031,169,004,141, 157
1930 DATA 015,031,169,006,141,016,031,096,173,020,031,141,014,031,169, 060
1940 DATA 084,141,015,031,169,006,141,016,031,096,120,173,014,220,009, 242
1950 DATA 001,141,014,220,169,049,141,020,003,169,234,141,021,003,173, 219
1960 DATA 025,208,009,001,141,025,208,173,026,208,041,254,141,026,208, 158
1970 DATA 088,096,169,206,133,251,169,021,133,252,032,094,016,032,061, 217
1980 DATA 022,169,023,133,251,169,022,133,252,032,094,016,032,084,022, 174
1990 DATA 096,001,011,017,083,065,086,073,078,071,032,067,072,065,082, 131
2000 DATA 065,067,084,069,082,083,002,011,017,045,045,045,045,045,045, 238
2010 DATA 045,045,045,045,045,045,045,045,045,045,045,008,005,029,083, 108
2020 DATA 065,086,069,032,079,078,032,084,065,080,069,032,079,082,032, 196
2030 DATA 079,078,032,068,073,083,075,032,040,084,047,068,041,255,011, 042
2040 DATA 003,015,069,078,084,069,082,032,070,073,076,069,032,078,065, 127
2050 DATA 077,069,012,020,016,045,045,045,045,045,045,045,045,045,045, 132
2060 DATA 045,045,045,045,045,045,255,032,228,255,201,068,208,006,169, 156
2070 DATA 008,141,021,031,096,201,084,208,239,169,001,141,021,031,096, 208
2080 DATA 024,162,011,160,020,032,240,255,160,255,140,022,031,032,228, 236
2090 DATA 255,240,251,201,013,240,053,201,032,240,014,201,020,240,049, 202
2100 DATA 201,048,144,235,201,090,240,002,176,229,238,022,031,172,022, 003
2110 DATA 031,153,080,031,032,210,255,173,022,031,201,015,208,210,032, 148
2120 DATA 228,255,240,251,201,013,240,007,201,020,240,007,076,143,022, 096
2130 DATA 238,022,031,096,173,022,031,201,255,240,008,169,020,032,210, 212
2140 DATA 255,206,022,031,076,097,022,169,000,141,003,031,141,004,031, 205
2150 DATA 141,023,031,141,024,031,173,001,031,073,003,240,021,168,024, 101
2160 DATA 173,003,031,105,000,141,003,031,173,004,031,105,064,141,004, 241
2170 DATA 031,136,208,236,172,002,031,185,003,023,141,023,031,200,185, 071
2180 DATA 003,023,141,024,031,024,173,003,031,109,023,031,141,025,031, 045
2190 DATA 173,004,031,109,024,031,141,026,031,096,000,000,000,128,000, 026
2200 DATA 016,000,024,000,032,000,040,000,048,000,056,120,165,001,041, 031
2210 DATA 252,133,001,173,025,031,133,251,173,026,031,133,252,169,000, 247
2220 DATA 133,253,169,032,133,254,160,000,177,251,145,253,200,208,249, 057
2230 DATA 230,252,230,254,165,254,201,040,208,239,165,001,009,255,133, 076
2240 DATA 001,088,096,024,162,015,160,000,032,240,255,174,021,031,169, 188
2250 DATA 000,160,000,032,186,255,173,022,031,162,080,160,031,032,189, 233
2260 DATA 255,169,000,133,251,169,032,133,252,169,251,162,000,160,040, 128
2270 DATA 032,216,255,096,160,000,185,133,023,073,240,153,003,004,200, 237
2280 DATA 192,034,208,243,096,243,248,241,226,241,243,228,245,226,208, 050
2290 DATA 230,249,245,231,245,226,208,221,221,208,242,233,208,253,241, 133
2300 DATA 226,249,255,208,241,242,245,252,241,160,000,185,003,004,073, 024
2310 DATA 240,141,027,031,185,195,023,205,027,031,208,006,200,192,034, 209
2320 DATA 208,235,096,032,226,252,096,243,248,241,226,241,243,228,245, 244
2330 DATA 226,208,230,249,245,231,245,226,208,221,221,208,242,233,208, 073
2340 DATA 253,241,226,249,255,208,241,242,245,252,241,000,000,000,000, 093
2350 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000, 000
2360 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000, 000
2370 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000, 000
```

Program

VARIABLE DUMP

by Chris Moody
C-64

This is a very useful utility for BASIC programmers to help eliminate errors caused by accidental multiple declarations of variables.

The program is for any C64. It will print out all in-use variables along with their current values eg.

A = 12

B% =10

A$ = "TEST"

C#

```
0 REM************************************
1 REM*                                  *
2 REM* VARIABLE DUMP  BY CHRIS MOODY *
3 REM*                                  *
4 REM*         NOV   1987               *
5 REM*                                  *
6 REM* TO REACTIVATE IF RESET PRESSED*
7 REM*         TYPE SYS 49379           *
8 REM*                                  *
9 REM************************************
10 L= 49152
20 FOR X=0 TO  15 :T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT 1000+(X*10)"OK":NEXT
80 SYS 49379: REM ENABLE ROUTINE
90 !: REM TRY OUT NEW COMMAND
100 END
1000 DATA 165,045,164,046,133,020,132,021,196,048,208,002,197,047,176,  064
1010 DATA 024,105,002,144,001,200,133,034,132,035,032,070,192,032,121,  233
1020 DATA 192,138,016,007,032,130,192,076,053,192,096,152,048,006,032,  082
1030 DATA 146,192,076,053,192,032,155,192,169,013,032,210,255,165,020,  110
1040 DATA 164,021,024,105,007,144,193,200,176,190,160,000,177,020,170,  215
1050 DATA 041,127,032,210,255,200,177,020,168,041,127,240,003,032,210,  091
1060 DATA 255,138,016,017,152,048,010,169,035,032,210,255,104,104,076,  085
1070 DATA 053,192,169,037,208,077,152,016,182,169,036,208,070,032,210,  019
1080 DATA 255,169,032,032,210,255,169,061,208,058,160,000,177,034,170,  198
1090 DATA 200,177,034,168,138,032,149,179,076,149,192,032,166,187,032,  119
1100 DATA 221,189,076,030,171,032,186,192,160,002,177,034,133,037,136,  240
1110 DATA 177,034,133,036,136,177,034,133,038,240,010,177,036,032,210,  067
1120 DATA 255,200,196,038,208,246,169,034,076,210,255,032,115,000,201,  187
1130 DATA 033,240,003,076,231,167,032,000,192,166,122,224,255,240,006,  195
1140 DATA 232,134,122,076,174,167,232,134,122,166,123,232,134,123,076,  199
1150 DATA 174,167,169,191,141,008,003,169,192,141,009,003,096,000,000,  183
```

The hatch sign after the C means that the C has been assigned using the 'DEF' command ie.
DEF FNC X ± TAN(C).

Basically the routine checks for the start of variable memory, it then looks for the variable name and then translates the following data into a form we understand. Once that has been done, it will then look seven bytes further on for the next variable, until no more can be found.

In writing this routine I decided to also include a new keyword (command) so as to obviate the need for the operator to enter SYSxxxx every time we require the routine to run. So now every time the Basic interpreter finds a pling (!) outside of quotes (") it will run the routine will remain active until the machine is reset, if this happens enter SYS49379.

The part of machine code that handles the pling (!) is firstly SETUP, this alters the pointer found at $0308/9, this normally points to $A7E4 where normal interpreter action is carried out, however if we adjust the pointer to point to the address of DECODE we can then check for a pling and if found execute the routine. If one is not found then we hand control back to the interpreter. If we find a pling then it is also necessary to increment the Basic Text Pointer at $007A so as to avoid a Syntax error report when we hand control back to the Basic Interpreter.

The pling can be entered either in direct mode or inserted into your program at a point where you might require to see the contents of your variables. I am sure this routine will be of great help to many programmers.

CLASSIFIED

Aussie 64 freak wants to swap latest software with anyone anyware. Send disks or lists to: Bob, 7 Hoyle Court, Cranbourne, 3977 Victoria, Australia.

AUSTRALIAN 64 user wishes to swap programs with 64 users all over the world. Disk only. Send disk with list on it. All disks answered. John Owens, 17 Aldershot Ave., Salisbury, 5108, Australia.

C64 MODEM unused £255. Data cassette, joystick, light pen 24+ games, books, D. cover £185. Siel software + database synthesiser (disk) £20, + 16 track live sequencer (disk) £25. Nigel Barnes, Bath 311630 or 14 Ayr St., East Twerton, Bath, Avon.

C128/64 user wants to swap software all over the world. Disk only. Send disks or lists to Tommy Storjord, Stervn. 7B 8200 Fauske, Norway.

SUPERBASE 128 complete with manual in good condition, £29 inc. P&P. Terry Hart, 17 Burns Gardens, Lincoln. Tel: 0522 29643.

AMIGA A500 software to sell or swap. All latest titles, send list to: Mark, 59 Leigh Road, Broadwater, Worthing, Sussex BN14 9HG or tel: 0903 30970 after 7 pm.

AMIGA SOFTWARE to swop. I have over 200 titles including all the latest stuff. Contact Bruno Johnson, 14 Queens Drive, Surbiton, Surrey KT5 8PN.

WANTED: Microvox sampling system for C64. Tel: 0773 602601.

Swap C64 progs and hints, disk only! Send list or disks to: Chriss Baeke, Lagenveien 27D, N.2600 Lillehammer, Norway.

BARGAIN VIC-20 software; Vicwriter (disk); powerful word processor; Vicfile (disk) database system; 8k RAM cartridge. Machine code monitor, programmers aid; supergraphics, turbotape cartridge. The lots; £30 or £4 each. Fareham 0329 235370.

PLUS/4 OWNER with disk drive wants penpals all over the world. I'm searching for tops and programs. Send your lists to: Jens Schroeder, Osterholzer Moehlendamm 55,28 HP44, Germany.

PRINTER/PLOTTER for C64, lots of paper. In excellent condition: £30 ono. Phone 0222 708418 or write to Anthony Swinburne, 3 Marine Parade, Penarth, S. Glam. CF6 2BE.

C16, C2N, 1551 drive, many games, disks, script plus, books, etc. £120. Phone: 0269 843136 evenings.

AUSTRALIAN AMIGA user wishing to swap ideas, tips and info. with people all over the world. Write to Steven, 167 Elizabeth Drive, Liverpool 2170, Australia.

DISK SOFTWARE for CBM64 for sale as new, with manuals, EASYFILE, EASYSTOCK, FUTURE FINANCE any one 10 or 25 the lot.If interested phone 051 924 7882.

WANTED Compiler for the Electro Sound Synthesiser program by Orpheus (on tape). If you have a copy, please ring Paul on Calne (0249) 812574.

PLUS 4 computer & games, joystick and datasette for 60. Write to: SinhHuynh, 17 Hordle Prom North, North Peckham, London SE15 6EG.

New Commodore user? Basic tutorial course available. 7 units only 2.50 per unit. S.A.E. for details to: Mr D P Whiteside, 171 Great Gates Road, Rochdale, Lancs. OL11 2DP.

Amiga user wants to exchange info, tips, programs, etc. Please write to Svein Aandahl, N-2634 Faavang, Norway. All letters answered.

Amiga disk friends wanted around the world, write to: Richard Gallimore, P.O. Box 179, Port Vila, Vanuatu, S.W. Pacific.

HERE'S MY CLASSIFIED AD . . .

		(Private Readers — Free-Max 32 words) Trade Advertisements — **50**p per word			

I make this _____ words at _____ p per word, so I enclose £ _____

Please continue on a separate sheet of paper for trade advertisements

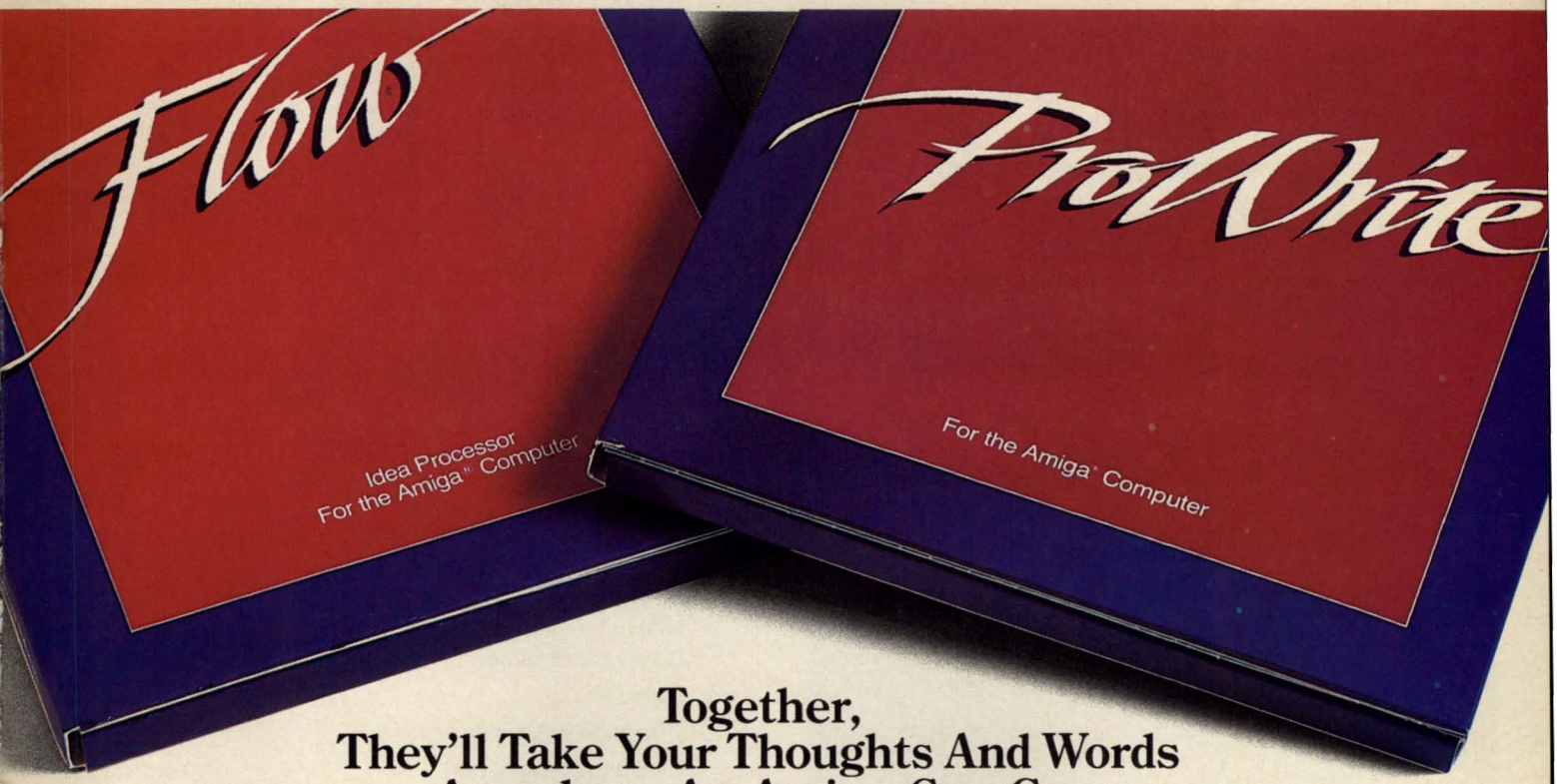
Name _____

Address _____

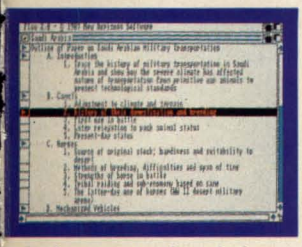
Tel: _____

Send your classified entries to:

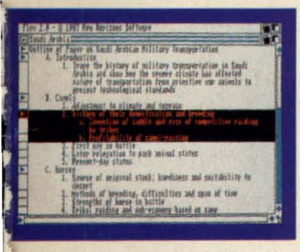
Classified Department,
Commodore Computing International Magazine.
40 Bowling Green Lane, London EC1R ONE
Tel: 01-278 0333 Ext.280



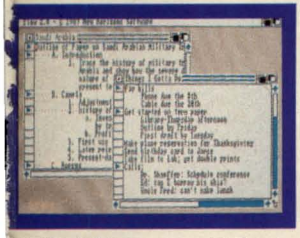
Together, They'll Take Your Thoughts And Words Anywhere An Amiga Can Go.



Outline format organizes ideas and information. Select any topic to expand.



Expand with subtext; then click to hide subtext. To change outline order, just drag any heading or paragraph to new position and click.



Cut and paste between screens, up to four at once.

Inside Your Mind To Capture Ideas As They Happen.

Never let another brainstorm slip by. Turn it loose in Flow™, the idea processor for Amiga. Whether you are working on a term paper or a business prospectus, Flow's outline format lets you jot down ideas quickly to build a preliminary framework. Then expand those ideas with subtext. Click to see the details, then click again to hide them and keep the big picture up front. Flow's flexibility gives you freedom to eliminate, rearrange and manipulate ideas so easily, you'll never use a scratch pad again.

The same process also works wonders on catalogs or to-do lists, speedily reducing large amounts of random data to multiple levels of organization. It's also great for scheduling and tracking projects over a period of time. And when you are ready to turn that Flow outline into a finished paper, the document can be loaded into ProWrite or other Amiga word processing software for further work.

It's a snap to use, with most commands mouse or keyboard operative, and multi-tasking power as well. So let your thoughts go—with Flow!

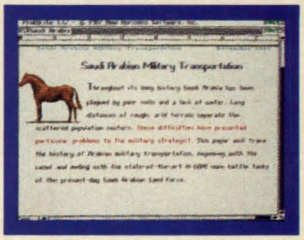
Over The Rainbow With The Only Multi-font Color Graphics Word Processor.

ProWrite™ masters the potential for Amiga word processing by giving you more than ho-hum words-on-a-page. Unleash the power of color in commanding headlines. Highlight key paragraphs or make important words jump off the page in full-spectrum hues. The possibilities are endless with ProWrite's wide variety of fonts, sizes and styles.

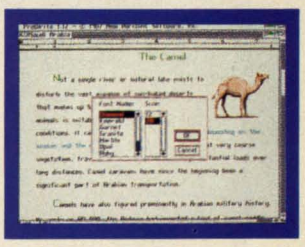
And when words alone aren't enough, punch up your document with IFF color graphics. Put text anywhere above, below or alongside the picture; even wrap words around the graphic for professional impact. And the active "what you see is what you get" principle means you know your printed output will live up to your best intentions.

Easy to use, ProWrite responds to mouse or key commands on most operations and features all the word processing tools you want: easy-to-set tabs and margins, multiple-line headers and footers, and paragraph-based formatting. Plus you can cut and paste among up to eight windows at once, and take full advantage of the Amiga's multitasking powers.

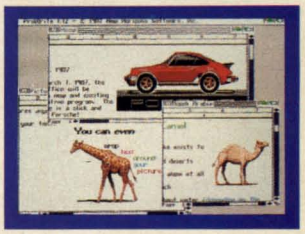
For any way you work with words, ProWrite is perfect: designed to combine creativity and versatility in an extremely easy-to-use package.



Use color in headlines or to highlight key words. Incorporate color graphics into copy.



Choose the font, style, point size and color that best suits your work.



Cut and paste between screens, up to eight at once. Wrap words around graphics for a professional look.

FLOW £60

PROWRITE £75

New Horizons SOFTWARE

First In Personal Productivity And Creativity.

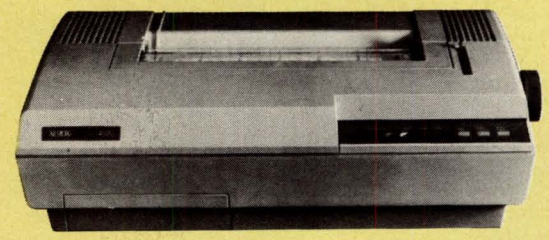
P.O. Box 43167/Austin, Texas 78745/512-328-6650

ProWrite and Flow are trademarks of New Horizons Software, Inc. Amiga is a registered trademark of Commodore-Amiga, Inc.

Prices include VAT

Amiga Centre Scotland, 4 HArt Street Lane, Edinburgh EH1 3RN 031 557 4242.

with the

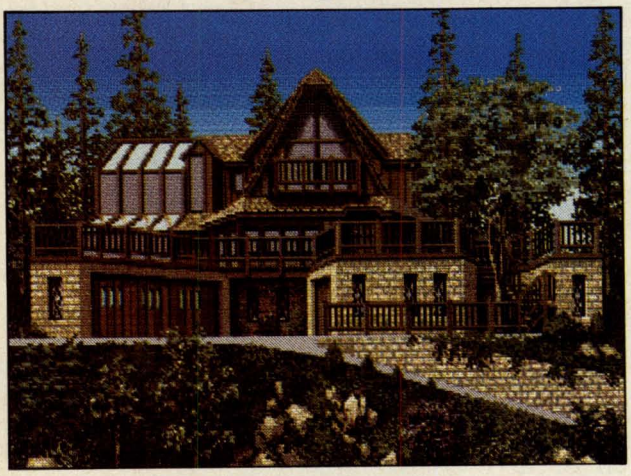


Xerox 4020

Colour Ink Jet Printer

what you see

is what you get



With NLQ too!

The Xerox 4020 colour ink-jet printer makes the most of your Amiga colour pictures, printing clear, bright images silently in 7 distinct colours and over 4,000 shades at 240 dots per inch resolution.

The Xerox 4020 handles all your correspondence and desk-top publishing needs too. Choose from 5 resident fonts in various sizes and achieve near letter quality results at a healthy 40 cps.

Xerox 4020: the ideal Amiga printer!

Precision Software

Available from your local dealer or directly from
Precision Software Ltd. 6 Park Terrace,
Worcester Park, Surrey KT4 7JZ
Telex 8955021 Precis G

01-330 7166

ADVERTISERS DIRECTORY

128 Users Club	Magenta Pages
16-bit Software	111
64 Software Centre	69,71
Amiga Centre Scotland	103
Athene Consultants	Magenta Pages
Avon Printer Technology	97
B.J.L. Software Library	Magenta Pages
Book Club Associates	Insert
Brown-Wagh	114, 116
BudgetSoft	Magenta Pages
Burocare	102
Byteback	21
C.B.S.	33
Calco	87
Clik	39
Club 68000	7
CRL	87
Datel Electronics	17, 18, 19, 34, 35, 42, 43, 106, 107
Delta Pi	99
Dimension Computers	9
Electronic Services	Magenta Pages
Evesham Micros	62, 63, 111
Financial Systems Software	5
G.T. Computers	45
Grand Slam	73
H&P Computers U.K.	11
Harwood Computers	50
Heath Computers	Magenta Pages
Hi-Voltage	118
ICPUG	97
Konix	59
Lan Computers	123
Letchworth Software	Magenta Pages
Mastertronic	92
Meedmore Distribution	23
Mega Mag Disk	Magenta Pages
Microillusions	105
Microprose	65, 67, IBC
Mirrorsoft	100
MPC	121
Nebulae Software	Magenta Pages
New Horizons	129
New Tek	49
Once Bytten	103
Peartree Computers	36
Perfect Forth Software	31
Postronix	IFC, 3
Precision Software	113, 130
Psygnosis	52
Robtek	63
Software Club	Magenta Pages
Supersoft	OBC
Triangle Television	103, Magenta Pages
Trilogic	99, 45
Turbotronics	Magenta Pages
Turtlesoft	81
U.S. Gold	12, 44, 57, 68, 76, 99
Wizard Software	31
York Electronics	87

Preview The Future!

PROJECT: STEALTH FIGHTER

Stealth Fighter... the hottest topic of conversation in aviation circles today. Space Age technology and engineering make these aircraft virtually undetectable by enemy radar. Stealth Fighters are believed to be in operation, flying the most sensitive missions, flown by a superior class of pilot. You can experience that thrill of flying a revolutionary aircraft, previewing the edge of the future.

PROJECT: STEALTH FIGHTER. Another brillant simulation from MicroProse. Available for the Commodore 64/128K. Cassette £14.95. Disk £19.95.

MICRO PROSE
SIMULATION • SOFTWARE

Please send _____ copy/ies of Project: Stealth Fighter CBM 64/128 ☐ Cassette £14.95 ☐ Disk £19.95 ☐ Further details.

Name (block capitals)_____ Address_____

_____ Post Code_____

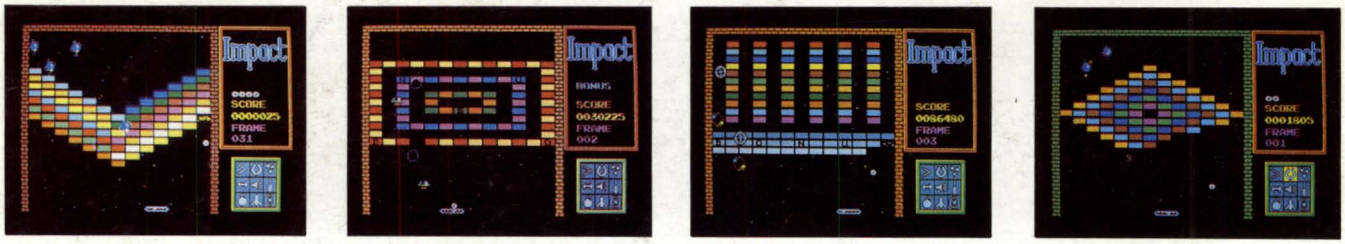
I enclose £_____ including 55p P+P. Cheques payable to MicroProse Software Ltd.

or debit my Access/Visa card. Expiry date_____ No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.

It plays like a dream... but seems like a NIGHTMARE!

TRAPPED – in a 1970's arcade machine! Every escape route is blocked by a wall of brightly coloured bricks. Powerfully addictive, with 200k of digitized sound, **IMPACT** has 80 built in screens plus 48 that you can design yourself – as hard, as simple, as much fun as you like. Hidden on each screen are special tokens – catch them if you can. Use them to buy one of nine powerful weapons, or keep them until the end of the screen to score a bonus.



Available now, price £14.95 for Amiga (512k min.) and Atari ST (requires 512k, mouse and colour monitor or TV).
CBM64 release date 19 February. Price on tape £9.95, on disc ary).

Audiogenic Software Ltd., Winchester House, Canning Road, Wealdstone, Harrow, Middlesex HA3 7SJ. ACCESS VISA ☎ Tel: 01-861 1166

ASP